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INSTITUTE FOR DEFENSE ANALYSES

Open Scenario Study, Phase I
Volume 1: Assessment Overview and Results

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		Form Approved OMB No. 0704-0188

Report Documentation Page

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
01 MAR 2008	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Open Scenario Study, Phase I, Volume 1: Assessment Overview and Results	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
Institute for Defense Analyses 4850 Mark Center Drive Alexandria, VA 22311-1882	

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES
See also ADM002141. Open Scenario Study, Phase I, Volume 1 of 3, The original document contains color images.

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**UU**	**164**	

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IDA Document P-4326

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PREFACE

This document reports the work performed by the Institute for Defense Analyses in partial fulfillment of the task order titled "Open Scenarios for Defense Planning." The work was sponsored by the Deputy Under Secretary of Defense for Science and Technology with additional oversight by the Office of the Director of Program Analysis and Evaluation and the Force Structure, Resources, and Assessment Directorate (Joint Staff, J8). The authors wish to thank the reviewers, Mr. Fred Hartman and Mr. Andrew Hull of the Institute for Defense Analyses, and Shelley Smith for editing the document.

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Volume 2   Aggregate and Organizational Data Graphs
Volume 3   Questionnaire Responses

SUMMARY

At the request of the Department of Defense (DoD), the Institute for Defense Analyses (IDA) assessed the national security community's need for unclassified scenarios and found that a significant demand exists. Furthermore, IDA found that the recurring costs for scenario development are significant but potential options for major cost-savings exist and should be further explored.

BACKGROUND

Scenarios are widespread throughout DoD, and they serve a variety of functions. In recent years, the Department has made significant progress in developing and coordinating a common set of classified scenarios, but it has no similar process for unclassified scenarios. Because of this gap, DoD and its partners have undertaken disparate efforts that have frequently produced incomparable and redundant unclassified scenarios. To examine this situation and develop potential solutions to better address the need for unclassified scenarios, DoD asked IDA to conduct a study of unclassified scenario development and use in the Department and among key DoD partners.

APPROACH

The overall study design includes three phases: (1) assessment of unclassified scenario needs, (2) development and assessment of alternatives for satisfying these needs, and (3) further development of the selected alternative. This report conveys the results of phase one of the study.

Phase One encompassed a multifaceted approach to assess the need for unclassified scenarios among DoD users and their partners. The first step of Phase One included problem definition and scoping through engagement with key stakeholders. An extensive literature review of both DoD and non-DoD sources was the second step. The third step involved surveying the national security community to gain insights and perspectives. This was done through an extensive questionnaire and selected interviews. The community surveyed included the Office of the Secretary of Defense, Joint Staff, Military Services, Combatant Commands, military and civilian educational institutions,

U.S. interagency, foreign partners, defense industry, and other select organizations (federally-funded research and development centers, DoD agencies, etc.).

KEY FINDINGS

Analysis of the results from our Phase One approach yielded several major findings:

1. *Scenarios are important to most of the national security community.* Over 90 percent of the organizations surveyed found both classified and unclassified scenarios important to the functions they performed.

2. *Strong demand for unclassified scenarios exists.* Almost 40 percent of the community indicated that unclassified scenarios were "very important" and 60 percent of them indicated that they would make more use of them if they were more available.

3. *Scenario development imposes significant recurring costs but potential for major cost-savings exists.* Of the group surveyed, scenario development costs over $80 million annually ($30 million for unclassified and $50 million for classified). They estimated that potential unclassified scenario alternatives could save over $10 million annually.

4. *Several factors drive use of unclassified scenarios.* There are real requirements that create the need for unclassified scenarios. The leading drivers are: (1) permitting participation of those organizations lacking clearances, (2) ease or convenience of use and handling, (3) lack of compelling need for classified scenarios, (4) perceived inflexibility of classified scenario data.

5. *Some commonality in scenario definition and form exists.* Across DoD and its partners, there was substantial agreement on the basic form and definition of scenarios. Almost 80 percent of respondents generally agreed with a definition that was provided. A majority felt that the following were "very important" components of scenarios: threat/challenge, concept of operations, assumptions, objectives, forces data, and strategic concept.

6. *Current classified scenario products (e.g., Defense Planning Scenarios) appear to meet needs well, with some suggestions for enhancement.* Over 60 percent of respondents indicated that current or planned classified scenario products satisfied their organizations' needs for classified scenarios. Some suggestions included increasing the number of long-term scenarios and developing a broader array of challenges.

7. *Potential alternatives exist for better satisfying unclassified scenario need.* Several alternatives provided were judged to offer cost-savings; other

promising options were offered up by respondents and interviewees themselves (see chapter V for examples).

RECOMMENDATIONS

Based on the major findings and others revealed throughout the study, the study team recommends that the Department:

1. Incorporate standard scenario definition and elements into DoD dictionary and key instructions.

2. Take steps to increase community visibility of various unclassified scenario activities.

3. Further develop and evaluate options for satisfying identified unclassified scenario needs.

4. Develop proof-of-principle demonstrations if viable options exist,

This volume of the report provides an overview of the first phase of the study. Companion volumes contain additional study detail (see the CD-Rom at the back of Volume 1). Volume 2, "Aggregate and Organizational Data Graphs," provides detailed graphical portrayal of the questionnaire data. Volume 3, "Questionnaire Responses," contains all of the original questionnaire responses (with respondent names removed).

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I. INTRODUCTION

The Department of Defense (DoD) has been engaged for some time in developing a robust common set of *classified* scenarios for defense planning purposes.[1] Although much work remains in the classified arena, several communities in or working with the Department appear to require *unclassified* scenarios for their purposes. Some of these communities include the Combatant Commands, federal agencies, multinational partners, and industry.

While DoD is reasonably familiar with the rationale and requirements for classified scenarios, it lacks adequate knowledge about the breadth and depth of interest in unclassified scenarios throughout the national security arena. To gain a better understanding of this area, in the summer of 2007 the Office of the Secretary of Defense (OSD) tasked IDA to "support the Department in assessing the need and developing options for unclassified planning scenarios." The options for addressing the identified need can range from doing nothing to setting up a new unclassified scenario development process. This Phase One report makes no assumptions about which option is most desirable.

A. STUDY OBJECTIVES

The overall study design includes three phases: (1) assessment of unclassified scenario needs, (2) development and assessment of alternatives for satisfying these needs, and (3) further development of the selected alternative. This report conveys the results of Phase One of the study.

The purpose of Phase One was twofold: (1) to expand DoD's knowledge concerning the demand for unclassified scenarios to support DoD's interests, and (2) to strengthen understanding of DoD-wide interest in options for gaining easier access to unclassified scenarios. If based on the Phase One findings the sponsor deems a second phase appropriate, IDA will proceed to lay out and evaluate practical options for making useful unclassified scenarios more readily and efficiently available to these communities.

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[1] For the purposes of this study, "classified" scenarios are those classified SECRET (either "NOFORN" or "REL"). Scenarios with higher classifications exist but were not addressed.

B. KEY RESEARCH QUESTIONS

The key research questions in Phase One focused chiefly on the demand for unclassified scenarios in the national security arena. Among these questions are the following:

- Which organizations use unclassified scenarios to support DoD?

- For what purposes do these organizations employ such scenarios?

- How important are such scenarios for these organizations?

- Why would these organizations use unclassified scenarios instead of classified scenarios?

- Do community members mean the same thing when they speak of scenarios?

- If some kinds of unclassified scenarios are made more readily available, at least as starting points, what should they look like?

- Do today's users of unclassified scenarios believe that any options for making such scenarios more available to them could save their organizations a significant amount of time or money?

C. PHASE ONE APPROACH

To systematically address these kinds of questions, IDA pursued a three-part approach that included reviewing the available literature; conducting a set of structured interviews with key scenario developers and users; and administering a questionnaire to the relevant participants in the national security community. IDA concluded Phase One by synthesizing all relevant findings and providing them to the sponsor and other interested parties.

1. Literature Review

IDA examined several types of literature to determine what kinds of scenarios, especially unclassified scenarios, are in use within the defense arena and what they may be most useful for. Official DoD documents and websites, other U.S. government citations, academic literatures, allied data bases, industry and think tank sources were all reviewed. The reviewers sought to learn what users typically mean by the term "scenario," what types of scenarios are in use, the purposes for which the scenarios are used, and the ways in which scenarios have proved to be especially valuable. Highlights of the literature review are provided in chapter three.

2. Structured Interviews

Some individuals and organizations were identified by the sponsors and by other experts as especially frequent and/or intensive users of unclassified scenarios. IDA laid out a plan to conduct structured interviews, either in person or though teleconferences, with as many of these users as feasible. A core set of interview questions, built from the questions cited above, was structured to discuss with each of these interviewees. The findings of the interviews appear throughout this report and details on the approach and methodology appear in appendix A.

3. Questionnaire

To efficiently gather as much current information regarding scenario use and preferences as possible—from DoD organizations, DoD's supporting research institutions, other U.S. Government organizations, defense-related industry, and some key U.S. allies—IDA structured and administered an online, not-for-attribution questionnaire. The questionnaire was designed to elicit respondents' views on 18 major topics. The instrument was internally tested at IDA, beta-tested (outside of IDA) by the study sponsors, and sent to several hundred potential respondents with a cover letter from the sponsors requesting their participation. More detail on questionnaire methodology is provided in appendix B, and detailed questionnaire data are contained on volumes 2 and 3 of this report.

The next chapter introduces some key considerations that emerged from discussions the study team had with sponsors and key stakeholders throughout the national security community to define the nature and scope of the Phase One problem.

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II. PROBLEM DEFINITION

Scoping the phase one problem entailed obtaining some perspectives as to why there might be a demand for unclassified scenarios at all, how extensive that demand might be, and for what specific purposes individuals and organizations might want to use unclassified scenarios. These unclassified scenarios are also referred to in this study as "open" scenarios, meaning that they are unclassified and readily available to the user community.

IDA conducted several internal brainstorming and scoping sessions to explore these issues. The study team also met with DoD sponsors and key stakeholders to discuss major topic considerations. Taken together, these sessions yielded the following major ideas about scenarios and about the demands for unclassified scenarios.

A. GENERAL CONSIDERATIONS

Scenarios are increasingly used in business and government—to promote creative solutions to problems, to help interested parties train, and to lay down key planning problems and opportunities that the organization's executives believe need strong, systematic attention.

Scenarios generally are expected to include at least a stipulated set of conditions that present a challenge or opportunity for the scenario users to address. A specific scenario may also include, for example, a set of goals or top-level objectives that should be promoted/achieved and a specified approach for achieving them. Each of these three elements may be more or less detailed in any given scenario. Additionally, scenarios may be focused on the past, the present, and the future, as well as any combinations of time periods.

Ideally, scenarios are constructed of several parts that are separable from each other. That is, a given completed scenario containing all three elements cited above may be ideal in its entirety for some users' purposes, whereas only the first two elements may be used by other users, along with a game or exercise to build alternative strategic or operational concepts themselves. *This kind of modular or tiered approach to scenarios seemed quite promising to many of the participants in the early discussions.*

B. UNCLASSIFIED VERSUS CLASSIFIED SCENARIOS

Throughout the study, several key distinctions between classified and unclassified scenarios were made. These frequently affected the decision of an organization on which type of scenario to use.

One major consideration was the cost of developing or acquiring the scenario. Logically, unclassified scenarios should be less expensive and administratively easier to build and to work with, since they don't require the security controls and special handling procedures that classified scenarios do. The cost of implementing requisite security procedures leads many organizations to work entirely in the unclassified scenario realm.

Another consideration is the number of diverse participants involved. Some functions are performed by a small, classified community, while others involve broad participation from a diverse audience. Because classified scenarios, by definition, have a limited distribution, they cannot be used by a large and diverse group of players, as unclassified scenarios can be,

A third distinguishing characteristic is the level of desired "authenticity." That is, whether a scenario is validated by official—and in many cases classified—sources. Given that they are not checked against official intelligence, unclassified scenarios may be less useful for certain purposes than classified scenarios. Unclassified scenarios, by their very nature, cannot contain classified information, information that will *sometimes* be more accurate than unclassified estimates. Even in cases where the scenario data are not technically classified, the manner in which they were collected may be.

Even if the estimates contained in unclassified scenarios are the same or nearly the same as those in classified versions, key decision-makers may not accept them as authoritative or appropriate, since they have not been certified by the intelligence community or other parts of the official security community.

Unclassified scenarios seem best suited for activities for which the most accurate intelligence estimates are not required or plausible but generic specifications of the problems are adequate. Arguably, therefore, training exercises and early concept development activities could rely largely upon unclassified scenarios. On the other hand, activities in which users need to produce results tailored around real threats or challenges would likely need the best intelligence (and other data sources) available, implying a need for classified scenarios.

Yet another characteristic is the ease of handling unclassified, versus classified, scenarios. There may be a natural bias toward using unclassified scenarios for as many functions and activities as possible within DoD, if for no other reason than ease of handling and sharing. To put the point another way, it may be that only if there is a compelling reason to use classified scenarios—to limit distribution of the evidence, the ideas, or the specific geographical or political contexts contained in a scenario, for example—would such scenarios seem to be attractive compared with unclassified scenarios.

C.   WORKING TAXONOMY OF MAJOR SCENARIO FUNCTIONS

DoD and its partners are using unclassified scenarios for a wide range of activities. IDA elicited suggestions informally from IDA analysts, from DoD personnel, and several others in order to devise a working taxonomy of activities that we could use to depict what scenarios are used for, as well as to describe how important they are to practitioners in each of those activity areas today.

The functional taxonomy of activities that IDA has developed for purposes of this study includes the following nine categories:

- **Intelligence and Threat Assessment**. The process of analyzing intelligence sources and conducting a threat analysis to develop an evaluation of a potential threat.[2]
- **Concept Development**. The process of maturing an idea—doctrinal, technological, or otherwise—for introduction into the future force.
- **War gaming**. Simulation, by whatever means, of a military operation involving two or more opposing forces using rules, data, and procedures designed to depict an actual or assumed real life situation.[3]
- **Operational Planning**. Planning activities associated military operations by combatant commanders and their subordinate joint force commanders in response to contingencies and crises.[4]
- **Force Structure and Capability Mix Analysis**. Analysis of the sufficiency and effectiveness of out year forces, including enablers. Such analyses examine force

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[2]   Modified definition of "threat assessment" in *Department of Defense Instruction*, "DoD Antiterrorism Program," Number 2000.12, December 2007, pg. 30.

[3]   Modified definition of "war game" in *DoD Dictionary of Military Terms*. Available at http://www.dtic.mil/doctrine/jel/doddict/data/w/05815.html, accessed December 2007.

[4]   Modified definition of "joint operation planning" in *DoD Dictionary of Military Terms*. Available at http://www.dtic.mil/doctrine/jel/doddict/data/j/02935.html, accessed December 2007.

structure and program alternatives and help evaluate strategic risk in the midterm and beyond.[5]

- **Experimentation**. The development, testing, exploration and assessment of new concepts, doctrine, organizational structures, capabilities, emerging technologies, etc. across any defined context and within any timeline.[6]
- **Testing**. A continuing process of evaluation that may be applied to operational personnel, military hardware, or situations to determine their validity or reliability.[7]
- **Acquisition**. The planning, design, development, testing, contracting, production, introduction, acquisition logistics support, and disposal of systems, equipment, facilities, supplies, or services that are intended for use in, or support of, military missions.[8]
- **Training/Education**. Instruction and applied exercises for acquiring and retaining skills, knowledge, and attitudes required to complete specific tasks.[9]

These categories may be thought of as broad activity bins that are not necessarily mutually exclusive but that encompass a relatively comprehensive list of functions within the DoD. Activities such as actual battlefield operations are not included here, but virtually all the activities leading up to and supporting such activities are included. This list was used to frame some study team discussions and as a basis for several questions in the questionnaire.

D. SECURITY TRADEOFFS

Within each of these activity areas, unclassified scenarios may be used to some extent within DoD today. Some activities may require classified scenarios most of the time, yet may use unclassified scenarios occasionally to help stimulate creative approaches, or to bring experts without clearances into structured discussions of problems that are simultaneously being addressed by the same organizations at highly classified levels.

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[5] Modified definition of "strategic analysis of future forces" in *Department of Defense Instruction*, "Support for Strategic Analysis" Number 8260.01, January 2007, pg. 6.

[6] Definition derived from U.S. Joint Forces Command, "The Joint Experimentation Program—A Laboratory for Transformation," available at http://www.jfcom.mil/about/experiment.html, accessed January 2008.

[7] Modified definition of "operational testing" in *DoD Dictionary of Military Terms*. Available at http://www.dtic.mil/doctrine/jel/doddict/data/o/03937.html, accessed December 2007.

[8] Definition of "acquisition" in *Department of Defense Instruction*, "Reporting Management Information on DoD Military and Civilian Acquisition Personnel and Positions," Number 5000.55, November 1991, pg. 18.

[9] Modified definition of "training" in *Department of Defense Instruction*, "Military Training," Number 1322.18, September 2004, pg. 10.

For example, some entities, such as combatant commanders, may prefer to be able to draw upon preexisting classified scenarios within DoD to conduct planning and exercises with allies and other close friendly countries, but the classified scenarios may not be releasable to the whole group of players that the scenario user has in mind. In such cases an unclassified variant needs to be found or crafted by the organization to fit its purposes.

Alternatively, some organizations may prefer to use unclassified scenarios for their planning or preparation activities, for convenience and ready accessibility to a broader group, but since such unclassified scenarios do not often have official standing within DoD or elsewhere in the United States Government (USG), an organization may be driven to use an approved classified scenario even though it may entail limiting participation in the scenario application and additional expense.

Conceivably, there are ways for DoD to widen the circle of access of some of its classified scenarios, or some parts of its classified scenarios, to DoD's key partners, without compromising national security secrets. Such possibilities might be of significant value to the DoD community, and the national interest, and therefore may deserve serious attention. Still, we must be mindful of the imperative to avoid jeopardizing important secrets and sources.

The following three chapters detail the literature review, interviews, and survey conducted during Phase One of the study to address the problem as defined and scoped in this chapter.

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III. CURRENT LITERATURE

Much has been written over the years and across disciplines about scenario development and use. Most of this literature pertains to unclassified scenarios.   This section reviews some of the major sources of *recent* literature with a focus on how scenarios are used across the national security community. In particular, it is useful to understand what definitions of the word *scenario* are currently being used by the DoD and its partners in the national security community. The following section is designed to add breadth to the study by briefly surveying several prominent open sources relevant to scenario design and use.

A. DOD LITERATURE

DoD literature was reviewed to understand how the Department defined the term "scenario." Below are a few examples of sources including DoD Instruction 8260.1 and the Joint Staff, both of which *could* provide the official definitions of the word *scenario*. However, our review revealed that there is no definition for *scenario* in the DoD Dictionary and, therefore, it is *possible* that no official definition of the word scenario exists within DoD literature. One reason for this may be because different scenario-users have different needs (e.g., the level of detail provided by a given scenario) and it is practical for users to define *scenarios* according to their own specific needs. While this hypothesis will be explored in all phases of the study, it is important to consider how relevant actors *outside* DoD define and use scenarios and to evaluate if their definitions or uses are useful.

1. DoD Dictionary and DoD Instruction 8260.1

No definition of *scenario* exists in the DoD Dictionary of Military and Associated Terms.[10] Currently, the word *scenario* is used only six times in the entire 764-page document.[11] However, further research indicates that a working definition of the word *scenario* can be found in DoD Instruction 8260.1: Support for Strategic Analysis. In DoD Instruction 8260.1, *scenario* is defined as:

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[10] DoD Dictionary of Military and Associated Terms,
http://www.dtic.mil/doctrine/jel/doddict/data/s/05185.html. Accessed: 18 July 2007

[11] In four instances the word scenario is abbreviated in an acronym.

An account or synopsis of a projected course of action or events. For purposes of this Instruction, the focus of scenarios is on strategic and operational levels of warfare. Scenarios include information such as politico-military contexts and/or backgrounds, assumptions, operational objectives (threat and friendly), major force arrivals, and planning considerations.[12]

Additionally, the instruction notes that scenarios should be used as the starting points for strategic analyses, to support resource allocation, and to reflect major military, budgetary, or political events.[13]

2. Joint Staff

Contrary to the broader definition of the word *scenario* offered by the instruction, the Joint Staff (J7) offers a definition for a specific set of scenarios known as the Defense Planning Scenarios (DPS):

A DPS provides a depiction of a threat to international security, a corresponding mission for U.S. military forces, and a strategic-level concept of operation for carrying out that mission. The SECDEF approved a single set of scenarios intended to serve as a standard by which the senior leadership of the Department can gauge the sufficiency of the Defense Program. A single set of scenarios ensures DoD consistency for studies, war games, and experimentation.[14]

From this definition, two different "tiers" of a DPS have emerged. The first tier, Tier 1, characterizes the scenario's assumptions, context/road to war, a red-threat (and its partners), blue-strategic objectives, and variations. The second tier, Tier 2, has a higher level of fidelity by depicting the blue-strategic concept, that is, the course(s) of action(s) accepted as the result of the estimate of the strategic situation. It is a statement of what is to be done in broad terms, sufficiently flexible to permit its use in framing the diplomatic, informational, military, economic (DIME), and other measures which stem from it.[15]

B. INTERNATIONAL ORGANIZATIONS AND ALLIES

Various DoD allies and associated multinational organizations also consider scenarios a useful tool. Since the DoD literature review uncovered more than one definition of the word *scenario* within the Department, the study team surveyed the

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[12] DoD Instruction Number 8260.01: Support for Strategic Analysis, 11 January 2007. p.6.

[13] Ibid. 1-8.

[14] Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm. Accessed: 18 July 2007

[15] IDA regularly performs DPS-related tasks as assigned by the Office of the Secretary of Defense (Policy Planning) and has first-hand knowledge regarding the accepted use of the tiered scenario approach.

literature of some of DoD's key international allies and various international organizations in order to understand how other DoD-partners consider and use scenarios.

Some of the definitions used by international allies and organizations in their scenario-related activities differ widely from the definitions found in the DoD literature, mainly in that the DoD definitions are *more* specific about the components of a scenario, while the definitions used by international allies and organizations are *less* specific about scenario components and *more* specific about the plausibility of a scenario. Some commonality among definitions does exist; however, particularly in relationship to the functions that the definitions describe scenarios should be used for.[16]

1. Allies

IDA's review of the open-source scenario literature uncovered that some of DoD's key allies are involved with scenario development and use,[17] showing that scenarios truly are a worldwide strategic tool. The review revealed that, as in the United States, our allies use scenarios in both military and civilian branches of their government. For example, Canada and the United Kingdom both use scenario planning with regard to responding to climate change (Canada) and pandemic outbreaks (United Kingdom).[18] Another major DoD ally, Australia, even offers a definition for the word *scenario* in a defense context. The Royal Australian Air Force defines *scenario* as a process that:

> …allows us to discover, invent, examine and evaluate possible, probable and preferable futures. It provides the opportunity to highlight dangers, alternatives and choices that need to be considered before they become urgent. Publishing a future scenario, or scenarios, allows others to become engaged in the discussion about the future.[19]

2. International Organizations

The study team learned that two of the world's largest international organizations define, develop, and use scenarios. The North Atlantic Treaty Organization (NATO) has

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[16] For additional international resources, see Appendix I of this document.

[17] This study focused on U.S. allies as opposed to other international actors. This is because the intent of the study was to examine the need for unclassified scenarios among DoD and the partners with which it interacts.

[18] UK Health Departments. "Pandemic Flu: UK Pandemic Contingency Plan," October 2005. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4121744.pdf. Accessed: 12 December 2007. Also see Natural Resources Canada, "Climate Change Impacts and Adaptations: A Canadian Perspective," http://adaptation.nrcan.gc.ca/perspective/directions_3_e.php. Accessed: 12 Dec. 2007.

[19] Wing Commander Callum Brown, "What is the War Coming To?" 2005: http://www.defence.gov.au/news/raafnews/editions/4715/letters.htm. Accessed: 25 July 2007.

used scenarios to gain long-term perspectives (beyond 20 years) on how the organization might be structured and for defense planning purposes. Thus, NATO defines *scenarios* as:

> …hypothetical events and environments [used] as test beds to determine what capabilities and/or force structures they may need to meet future threats in different parts of the world.[20]

Additionally, the World Health Organization (WHO) also uses scenarios to help with strategic guidance in the mid-term (about 10 years). The WHO defines a scenario as a tool that incorporates:

> …trends across many disciplines and provides a tool systematically to consider future options…Scenarios [are not] to be construed as a prediction of the future. The discussions generated by the scenarios will provide a backdrop for identifying and targeting key strategies for global health and the role of WHO…[21]

C. ACADEMIC INSTITUTIONS AND COMMERCIAL RESEARCH ORGANIZATIONS

IDA's review found that numerous actors outside of DoD and its international partners develop and use scenarios for both academic and commercial purposes. In fact, several U.S. universities offer Futures Studies programs, which pay detailed attention to scenario development and use, while other research centers exist with the sole intention of exploring future scenarios for commercial purposes.

Our review found that several definitions of *scenario* are used by academic and commercial research organizations, each of which offers a unique perspective on how scenarios are considered and used outside of DoD-related activities. Although the academic and commercial research organizations use scenarios for non-defense-related activities, some commonality among definitions does exist, particularly with regard to strategy development. The following subsections offer some insight into how academic institutions and commercial research institutions define and use scenarios.[22]

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[20] Col. Peter Faber, *NATO Long-term Defense Planning: Implications for the Future,* Rome: NATO Defense College, 2003, p. 2. http://se1.isn.ch/serviceengine/FileContent?serviceID=PublishingHouse&fileid=A88A2B17-A08B-1BF6-471E-67F1E840E8D9&lng=en. Accessed: 25 July 2007.

[21] World Health Organization. *General Programme of Work2006-2015*, 2004: p. 2. http://www.who.int/gb/ebwha/pdf_files/EB115/B115_15-en.pdf. Accessed: 25 July 2007

[22] For additional sources, see Appendix B of this document.

1. Academia

Examples of university-based Futures Studies programs are California State – Dominguez Hills (Global Options program) and the University of Houston – Clear Lake (Futures Studies program). Both institutions offer students a multidisciplinary approach to futures studies curriculum and emphasize a variety of talks, workshops, and seminars designed to complement students' academic base. Some of the extracurricular activities pertain to scenarios and visions, defined in one Futures Studies syllabus as follows: "Scenarios portray alternative plausible futures that could occur, and visions capture the best of those in a compelling image of the preferable future."[23] Similarly, the Global Options program defines scenario as "a possible sequence of events that 'could' happen in the future, based on certain initial conditions or assumptions and what could follow from that".

> Concerning the use of scenarios, the Global Options Program also notes that: Futurists often construct at least two or three different scenarios about the future in some area, believing that different alternative futures are possible. Examples include: best case, worst case, most probable case, and other type scenarios.[24]

Finally, the Global Options program also offers a step-by-step process in scenario construction, in which values are specified, analysis of the present and forecasting future developments occurs, alternative futures are formulated and evaluated, strategies are drafted, and policies are implemented, evaluated, and adjusted.[25]

2. Commercial Research Organizations

In addition to academic programs, various other research institutions specialize in scenario development and use. Included in these specialized research institutions are the Institute for Alternative Futures (Alexandria, Virginia), the *Plausible Futures Newsletter: News an Analysis for Futures Studies and Scenario Planning*, and the Global Business Network. All three of these for-profit institutes offer viable definitions of *scenario*, and offer a range of scenario development activities. The Institute for Alternative Futures uses the following criteria to define a scenario:

- Compile information about divergent trends and possibilities into internally consistent images of plausible alternative futures.

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[23] Andy Hines, *Scenarios and Visions* Course Syllabus: http://tech.uh.edu/futureweb/Curriculum.htm. Accessed: 19 July. 2007.

[24] Dr. Linda Goff and Dr. Paul Smoker, Co-Directors of Global Options: http://www.csudh.edu/global_options/IntroFS.HTML#FSUnivsProgs. Accessed: 19 July 2007.

[25] Ibid.

- Are designed to systematically explore future challenges and opportunities and aid in strategy development.

- Are *not* predictions but rather pathways across different circumstances, help identify hidden threats and opportunities, are an investment in learning, a powerful tool rather than an end product.

- Examine a broad range of variations and contain "negative" images and challenges the fundamental assumptions about what the future may look like.[26]

The *Plausible Futures News Letter* defines *scenarios* as:

> …based on an appreciation of current circumstances, perceived trends and expectations of future developments. They are a reflection of circumstances, real or proposed, at some point in time…Scenarios will evolve over time.[27]

The *News Letter* also notes that for defense purposes, scenario-based planning:

> …utilizes a set of hypothetical situations for the employment of military forces. The situations are specified in terms of geographic, military and civil parameters. Military capability requirements are determined from assessments of the ability to achieve mission objectives.[28]

Meanwhile, the Global Business Network's founder, Peter Schwartz,[29] defines *scenarios* as:

> tools that help to take a long view in a world of uncertainty…stories about the way the world might turn out tomorrow…that can help us recognize and adapt to changing aspects of our present environment…a method for articulating the different pathways that might exist for you tomorrow…[30]

Schwartz also notes that "scenario planning is about making choices today with an understanding of how they might turn out"; that scenario development is contingent upon isolating and refining decisions that need to be made, identifying variables (certain and

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[26] "The Future Belongs to Those Who…A Guide to Thinking About the Future," Institute for Alternative Futures, Alexandria, VA: http://www.altfutures.com/docs/FuturesTechniques.pdf. p. 3-4.

[27] Plausible Futures Newsletter, *The Use of Scenarios in Long-Term Defence Planning*: http://www.plausiblefutures.com/the-use-of-scenarios-in-long-term-defence-planning.55074-6691.html. Accessed: 18 July 2007.

[28] Ibid.

[29] Peter Schwartz is a former employee of Royal Dutch Schell, a company that is largely credited with popularizing scenario development and use for commercial purposes. The Global Business Network is an organization dedicated to the development and use of scenarios for commercial enterprise.

[30] Schwartz, Peter. "The Art of the Long View: Planning for the Future in an Uncertain World," New York: Bantam Doubleday Dell Publishing Group, Inc., 1991. 3-4.

uncertain) that will affect decisions; and that implications to the variables' impact on decisions must be rehearsed.[31]

D.   CONCLUSION

IDA's review of the literature on scenario development and use uncovered several important findings. First, it is possible that DoD has no official definition for *scenario*, although two competing definitions emerged. As of a result of this finding, one of the study's central research questions became, Why is there apparently no common DoD definition for *scenario* in the DoD Dictionary.

For the purposes of the questionnaire and interviews, the study team advanced forms of the two prevailing definitions introduced above. These two were selected because they have some standing in the analytic community and provide examples of both a broader and narrower definition of the term. The modified definitions described *scenario* as:

(1) A depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission.[32]

(2) An account or synopsis of a projected course of action or events written at the strategic and operational levels of warfare. Scenarios include information such as politico-military contexts and/or backgrounds, assumptions, operational objectives (threat and friendly), major force arrivals, and planning considerations.[33]

Second, IDA found that a variety of actors, both DoD and non-DoD related, develop and use scenarios. This finding helped the study team gain perspective on important stakeholders that need to be engaged in additional phases of the project, in order to better understand scenario development and use.

Third, this review of existing literature generally reinforced the functional taxonomy of activities presented in the preceding section. That is, the literature showed a similar list of activities throughout the Department and among its interagency and international partners for which unclassified scenarios are utilized.

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[31] Ibid., pp. 3-4 and 26-8.

[32] Adapted from definition of *Defense Planning Scenario*. See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm. 18 July 2007. The documented definitions of DPS do not reflect recent adoption of "strategic concept" versus "strategic-level concept of operations."

[33] Adapted from DODI 8260.1 definition of "scenario." See DoD Instruction Number 8260.01: Support for Strategic Analysis, 11 January 2007.

Finally, IDA's review of the scenario literature has given the project team a strong baseline understanding of the activities for which scenarios are used.

IV. COMMUNITY PERSPECTIVES

The purpose of Phase One of this task was to assess how the national security community views scenario use, particularly unclassified scenario use. One part of our approach in this phase involved both surveying the community using a questionnaire and conducting interviews. The specifics of the interviews and questionnaire are provided in appendixes C and D, respectively. This multi-method approach yielded substantial data on how scenarios are used in aggregate and by individual actors and organizations in the community.

This section highlights our findings and recommendations from the interviews and survey. The information is based largely on questionnaire data, supported by insights gained from the interviews and literature review. These perspectives are presented first "in aggregate," reflecting the entire community surveyed, and then broken down by actor/organization in section B.

A. AGGREGATE COMMUNITY PERSPECTIVES

For the purposes of this assessment, the national security community consists of the following actors/organizations: the Office of the Secretary of Defense, Joint Staff, Military Services, Combatant Commands, service schools and academia, U.S. interagency, foreign partners, defense industry, and other select organizations (federally funded research and development centers, DoD agencies, etc.). This section provides the perspectives of this community in aggregate, while section B breaks the results down by each of these organizations in order to provide unique perspectives and key areas of agreement or disagreement. The aggregate included 78 respondents from the above organizations. The percentages from each appear in figure 4-1 below.
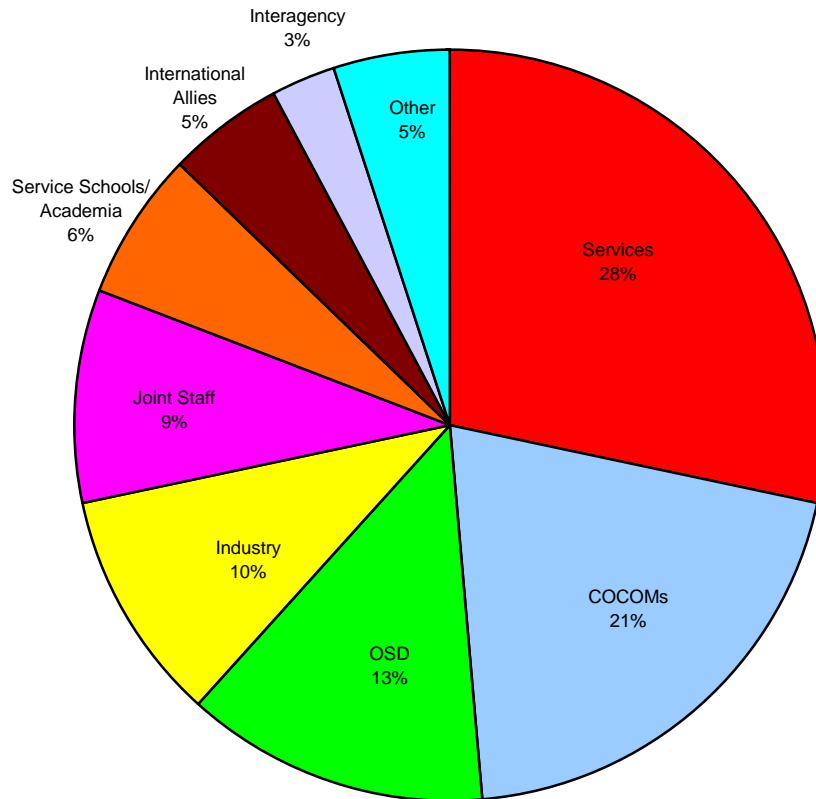
Figure 4-1. Percentages of Respondents from Each Organization

1. Scenario Definition and Elements

The assessment demonstrated that there is a high degree of commonality across the community both in the way *scenario* is defined and in the key elements of a scenario. IDA used two common definitions of scenario when discussing the definition of scenario with study participants:

(1) A depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission.[34]

(2) An account or synopsis of a projected course of action or events written at the strategic and operational levels of warfare. Scenarios include information such as politico-military contexts and/or backgrounds, assumptions, operational objectives (threat and friendly), major force arrivals, and planning considerations.[35]

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[34] Adapted from definition of *Defense Planning Scenario*. See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm. 18 July 2007. The documented definitions of DPS do not reflect recent adoption of "strategic concept" versus "strategic-level concept of operations."

[35] Adapted from DODI 8260.1 definition of "scenario." See DoD Instruction Number 8260.1: Support for Strategic Analysis, 11 January 2007.

Although there was some interest in the second definition because it is more specific, most people contacted as part of the study (via interviews, interactions, etc.) preferred the first definition because it was broader and satisfied a greater portion of the community. Therefore, the first definition was adopted in the questionnaire and respondents were asked whether their organization defines *scenario* the same way. Of those surveyed, 78 percent indicated that their organizations did define it the same way, while the remaining 22 percent said that they did not agree with the way it was defined. Of those reporting that they disagreed with the definition, they said they disagreed because the proposed definition:

- focuses too much on "threat" and not enough on context/environment;
- should include more DIME/Political, Military, Economic, Social, Information, Intelligence (PMESII) elements;
- must include echelons below "strategic"; and,
- requires more detail—to include forces data.

In addition to soliciting perspectives on scenario definition, the questionnaire also asked respondents the importance of various elements of a scenario. The elements offered to respondents included: (red) threat/challenge, (operational) concept of operations, assumptions, (blue) objectives, forces data, strategic concept, and context/road to war. These elements are representative of elements contained in existing unclassified scenarios. The list was generated by IDA with input from sponsors. Figure 4-2, below, shows the level of importance the respondents assigned to each of these scenario elements.
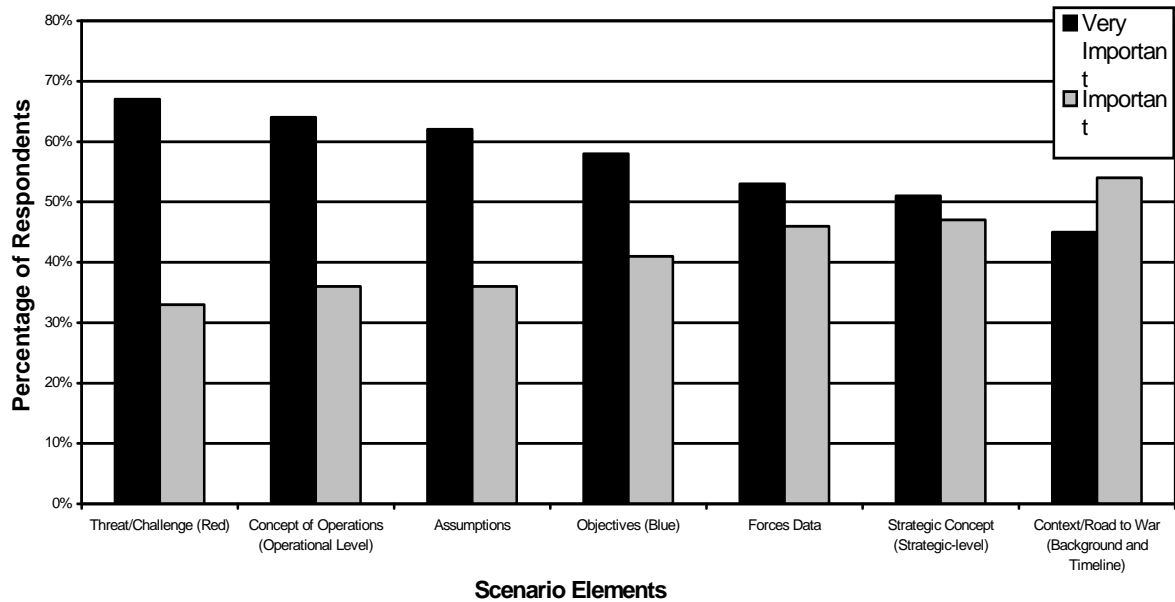
Figure 4-2. Importance of Scenario Elements

2. Scenario Importance—in General and by Function

When asked how important scenarios were to their organizations, an overwhelming majority of respondents indicated that scenarios are important (see figure 4-3). Over 60 percent of respondents indicated that classified scenarios are "very important," while almost 40 percent of respondents said the same thing about unclassified scenarios. When "very important" and "important" responses are combined, both unclassified and classified scenarios were judged as important by over 90 percent of respondents.
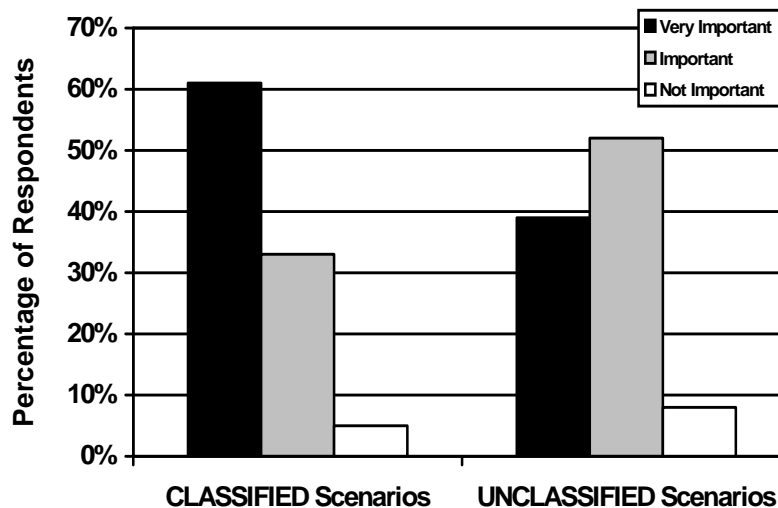
Figure 4-3. Importance of Scenarios

In perhaps the assessment's most significant finding, the online questionnaire indicated that a strong demand for unclassified scenarios exists within the national security community. When asked if they would use unclassified scenarios more often if they were more readily available to them, 61 percent of questionnaire respondents noted that they would use unclassified scenarios to complete their tasks, as shown in figure 4-4.[36]
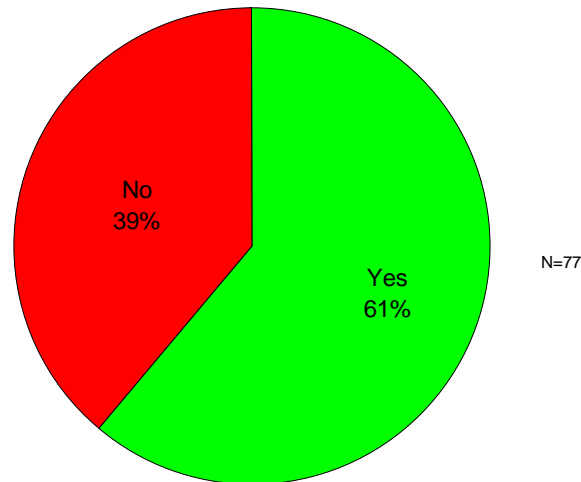
**Figure 4-4. Respondents Indicating Greater Use of Unclassified Scenarios
If Made More Accessible**

In addition, the phase I assessment also found that there is a significant demand for unclassified scenarios both inside and outside DoD. Of the 59 questionnaire respondents classified as "inside" DoD, 54 percent indicated they would use unclassified scenarios more often if they were more readily available.[37] Furthermore, of the 21 respondents classified as "outside" DoD, 83 percent said they would use unclassified scenarios more often.[38]

The assessment also demonstrated that both classified and unclassified scenarios are used widely throughout the community to serve a variety of functions. Through

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[36] Results are from question #4 of the online questionnaire.

[37] A respondent designated as "inside" DoD means the respondent was a DoD employee and could be classified in one the following groups: COCOMs, the Joint Staff, the Armed Forces, OSD, or a sub-group of the Service Schools/Academia, and "Other" groupings.

[38] A respondent designated as "outside" DoD means the respondent was not a DoD employee and could be classified in one of the following groups: Allies, Interagency, Industry, or a subgroup of the Service Schools/Academia and "Other" groupings.

initial scoping and interactions with subject matter experts, IDA devised the following taxonomy of nine functions that scenarios typically help perform in the national security community: force structure and capability mix analysis, acquisition, concept development, experimentation, war gaming, training/education, testing, intelligence and threat assessment, and operational planning. For both classified and unclassified scenarios, respondents were asked how important scenarios were to perform the stated functions. They were also permitted to nominate additional functions not listed, but most of those nominated were lesser-included cases of the nine functions.

a. Unclassified Scenarios

Figure 4-5, below, reflects the importance of unclassified scenarios to the stated functions. The functions are listed from left to right in descending order of importance of unclassified scenarios; those functions where unclassified scenarios were judged most important are on the left, the functions where unclassified scenarios are less important are on the right. Even for the function where unclassified scenarios were deemed least important—"intelligence and threat assessment"—over 40 percent of respondents judged them to be "very important," while less than 40 percent assessed them as "not important" to performing the function. This suggests that unclassified scenarios are important to a wide variety of functions performed by the national security community.
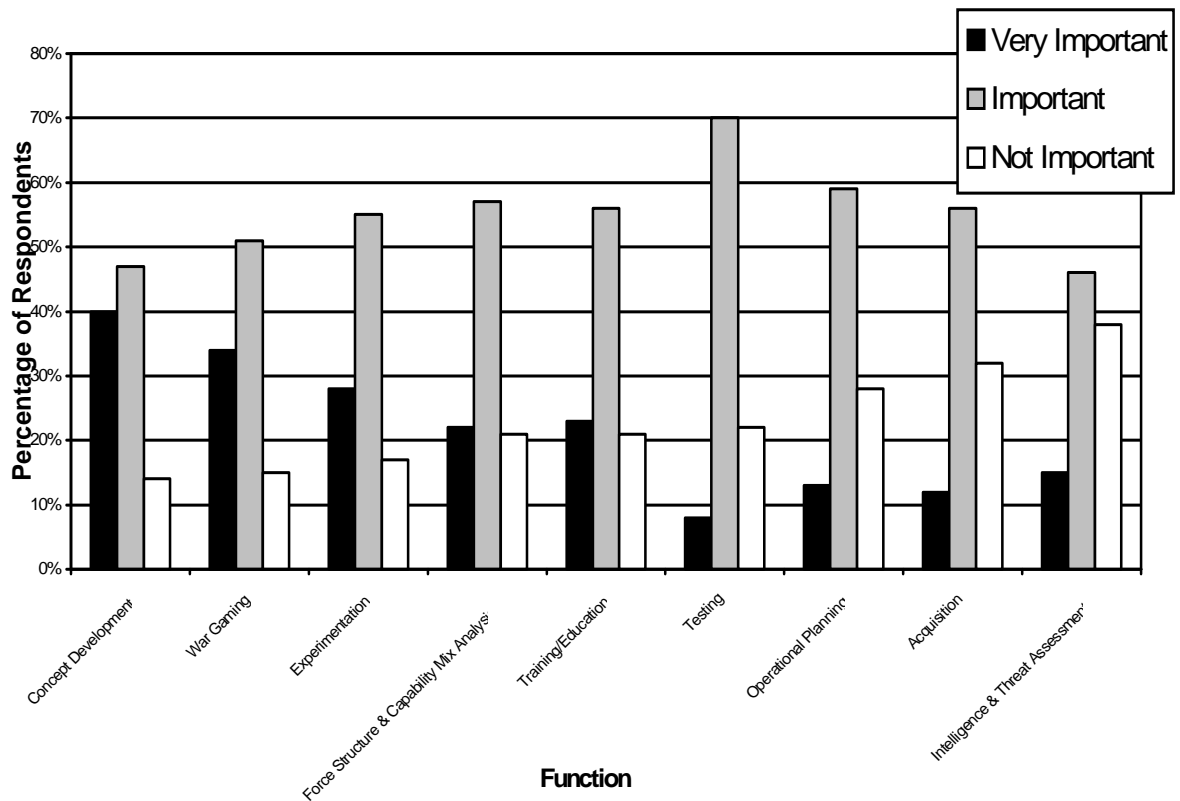
Figure 4-5. Importance of Unclassified Scenarios (by function)

b. Classified Scenarios

Figure 4-6, below, depicts how important classified scenarios are to the same functions addressed in figure 4-5.[39] The order of importance of classified scenarios to the function is displayed in descending order from left to right. The respondents felt that classified scenarios were most important to performing force structure and capability mix analysis as well as intelligence and threat assessment. Although they were not described as "very important" by a majority of respondents, classified scenarios were still judged to be important to the remaining functions provided. These data suggest, as with unclassified scenarios, that classified scenarios are important to a wide variety of functions performed by the national security community.

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[39] As previously mentioned, "classified" scenarios refers only to SECRET (including NOFORN or REL) scenarios.
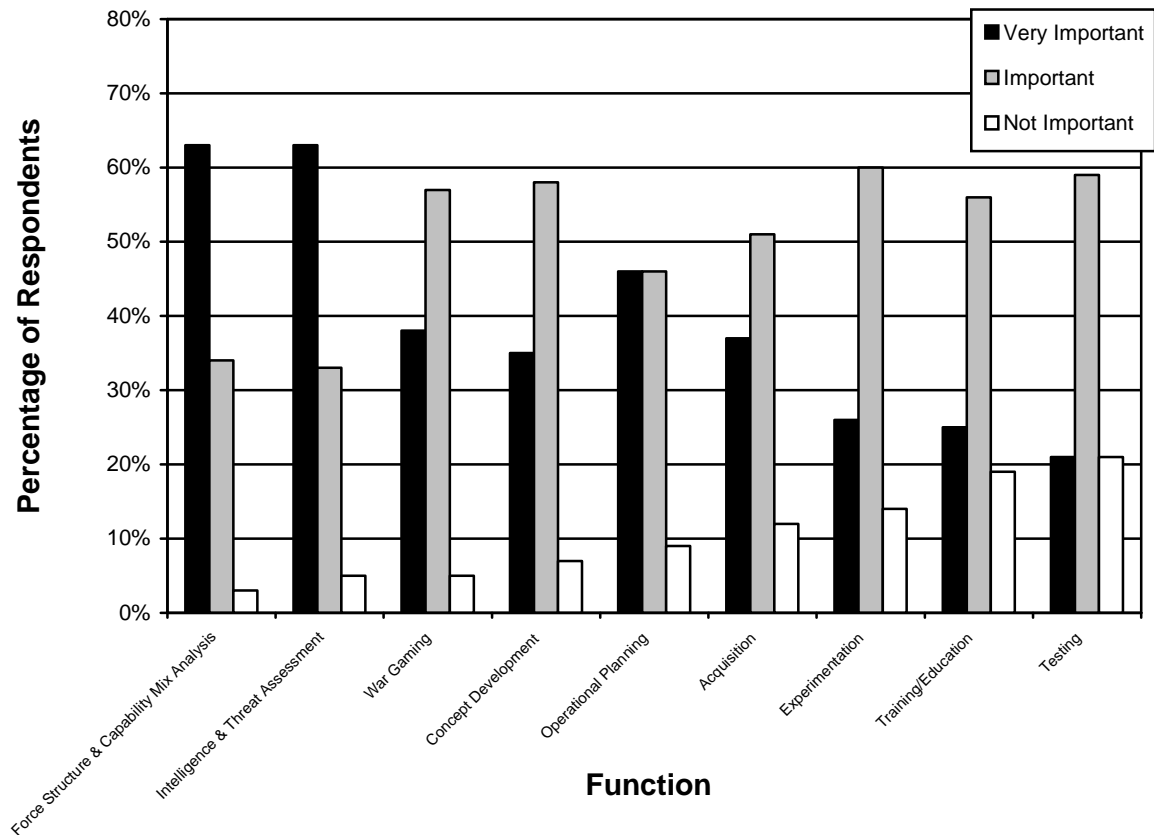
Figure 4-6. Importance of Classified Scenarios (by function)

3. Sources of Scenarios

Both unclassified and classified scenarios may come from a variety of sources. They may be developed anew, acquired from other sources, or adapted from existing classified or unclassified scenarios. The source depends upon the user organization's available resources, familiarity with the existence of other scenarios, and the potential of existing scenarios to meet the organization's particular needs.

Questionnaire respondents were asked about their method for acquiring both classified and unclassified scenarios. They were able to choose from the four sources outlined above: develop (scenarios) anew, acquire from other sources, adapt existing classified scenarios, or adapt existing unclassified scenarios. Respondents could choose from more than one source for their scenarios.[40]

For unclassified scenarios, an overwhelming majority of respondents (92 percent) indicated that they developed scenarios anew, and the second largest group of

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[40] Permitting respondents to choose more than one source results in totals greater than 100 percent in figures 4-7 and 4-8 below.

respondents (69 percent) indicated that they modified existing unclassified scenarios to meet their needs (see figure 4-7).
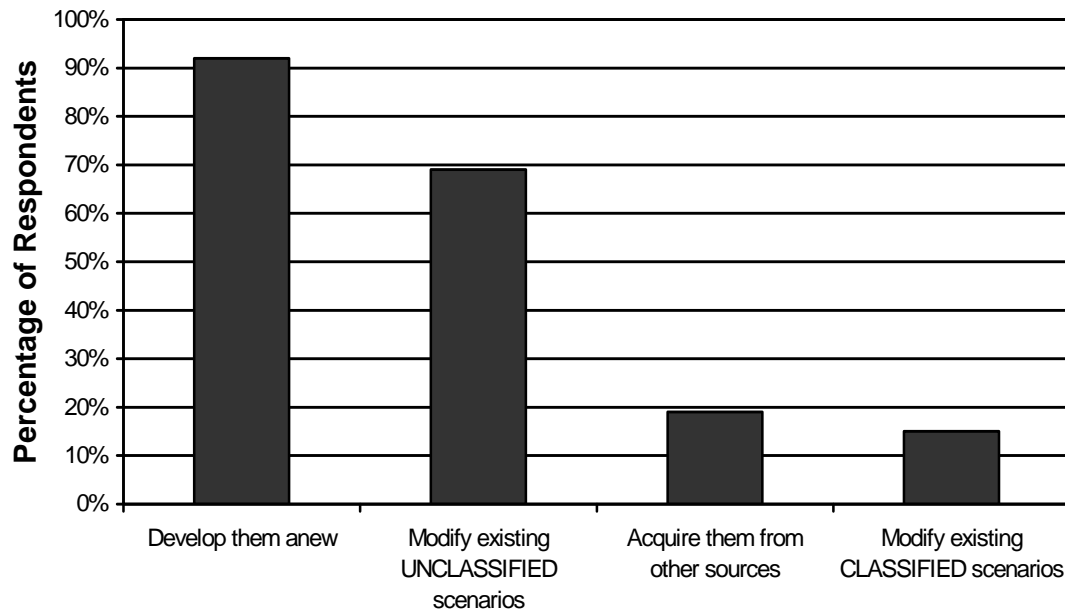
Figure 4-7. Sources of Unclassified Scenarios

A majority of users of classified scenarios (71 percent) reported that they modified existing classified scenarios to meet their needs (see figure 4-8). The second largest group (47 percent) indicated that they acquired classified scenarios from other sources such as DPS. Unlike users of unclassified scenarios, a minority of users of classified scenarios (33 percent) develop their scenarios anew, preferring instead to go to other sources.

The data on sources of unclassified and classified scenarios, taken together, suggest that *there is greater reuse of scenarios in the classified community than in the community of unclassified scenario users*. This is because a significant majority of unclassified scenario users indicated that they develop their scenarios anew. Although not specifically asked of respondents, the likely reason for greater reuse in the classified community is the existence of Analytic Agenda products such as DPSs or Analytic Baselines. Those interviewed as part of the assessment recognized that the Analytic Agenda process had matured and was providing the community with efficiency through reuse.
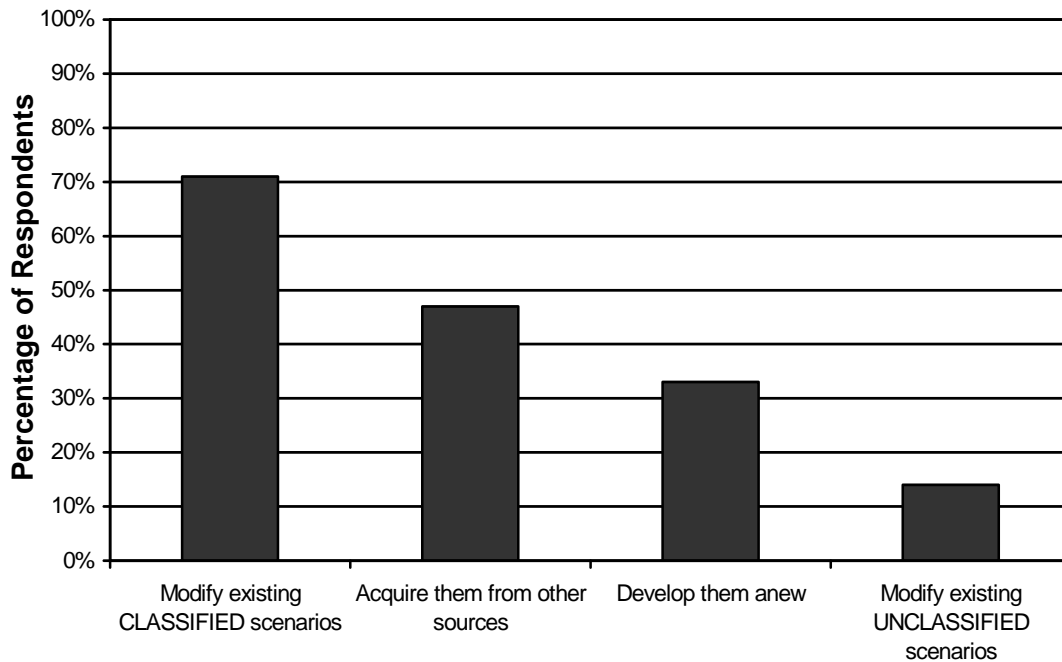
Figure 4-8. Sources of Classified Scenarios

4. Factors Influencing Use

Several factors drive organizations to use unclassified over classified scenarios. Some factors are obvious while others are less so. Following are the four main drivers for unclassified scenario use identified by the assessment:

- Permitting participation of organizations that lack clearances
- Ease or convenience of use and handling
- Lack of compelling need for classified scenarios
- Perceived inflexibility of classified scenario data

a. Permitting Participation of Organizations That Lack Clearances

National security activities are increasingly including a more diverse set of participants—the interagency, foreign partners, non-governmental organizations, and academia. This is driven in large part by strategic guidance and the need to contend with complex contingencies. One feature of this broader group of participants is that many do not have the requisite clearances to use existing classified scenario products. Therefore, organizations must rely on existing unclassified scenarios or develop them anew to meet their needs.

The difficulty in sharing classified scenarios with intergovernmental and international partners is a major factor limiting use of classified scenarios (see

figure 4-9). Over 50 percent of questionnaire respondents indicated that it was a "very important" factor in their decision not to use classified scenarios. Despite recent attempts to make some classified scenarios releasable to key foreign partners, the scenarios still do not satisfy a majority of the community's needs because they frequently engage with a much broader set of interagency and international participants. Joint Forces Command, in particular, routinely engages foreign partners to whom classified material is not routinely releasable.
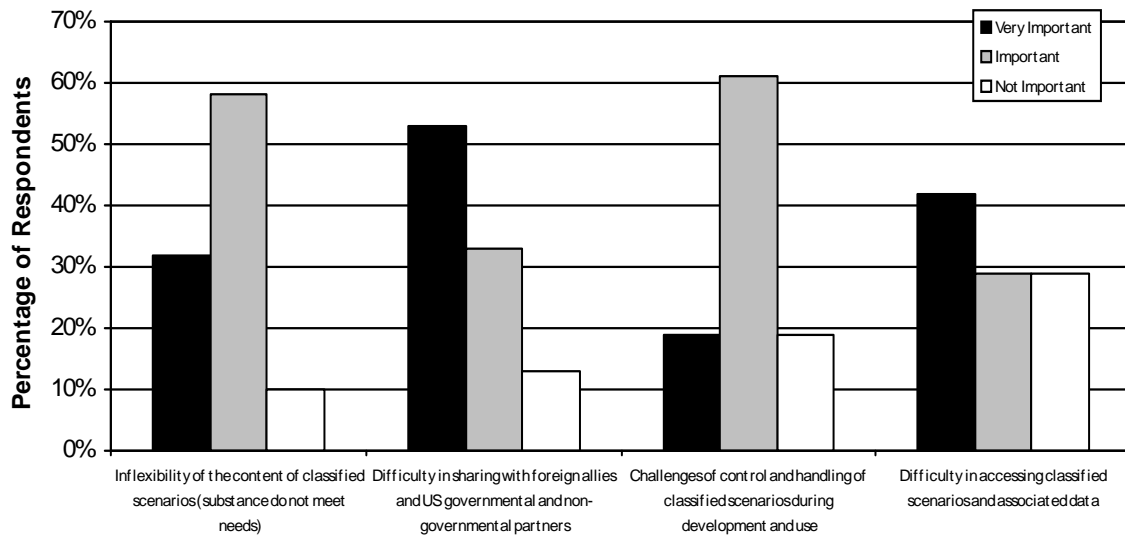
Figure 4-9. Factors Limiting Classified Scenario Use

b. Ease or Convenience of Use and Handling

The challenge posed by handling classified scenario products is also a major factor driving organizations to unclassified scenarios. Handling classified scenarios requires staff to be cleared, storage facilities to be in place, and networks that permit the transmission of classified data. These requirements pose significant costs on any organization and are frequently too costly for smaller or lesser-funded organizations. Approximately 80 percent of respondents indicated that handling or ease of use was either an "important" or "very important" factor limiting their use of classified scenarios (see figure 4-10).

c. Lack of Compelling Need for Classified Scenarios

Another factor driving users toward unclassified scenarios is the simple lack of compelling need for classified products. Most organizations that utilize classified products do so for a specific reason (or a combination of reasons) such as to inform

strategic decisions, to conduct detailed analysis requiring capability specifications, or to gain the "credibility" of classified intelligence assessments. However, much of the community does not have the same compelling need or have determined that they could sufficiently address these issues using unclassified sources. This issue was not addressed specifically in the questionnaire but came up repeatedly during interviews and meetings with scenario developers and users throughout the community.

d. Perceived Inflexibility of Classified Scenario Data

The perceived lack of flexibility of classified scenarios and attendant data is also a major driver in use of unclassified scenarios (see figure 4-9). For example, one questionnaire respondent wrote, "Typically, classified scenarios do not meet all our needs for developing alternative concepts of operations for either red or blue." In fact, for 90 percent of the respondents, inflexibility of classified scenarios was the most important factor in their decision to use unclassified scenarios (when combining those that thought it was "important" with those indicating "very important"). Several of those interviewed and interacted with as part of the assessment felt that the DPS were too limiting and that the attendant MSFD data were inflexible and not easily tailored. Some of this sentiment may be explained by institutional bias or outdated impressions of what these classified products once looked like. Nonetheless, it was cited as a limiting factor according to an overwhelming majority of respondents.

5. Cost Estimates

Scenario development costs throughout the national security community are significant. They come in the form of manpower and/or dollars spent. The workload may either be absorbed by an organization's staff or outsourced. Regardless, the costs incurred add up, depending on the extent to which an organization develops scenarios. Respondents were asked to estimate the amount of resources they expended annually (either in man-years or actual dollars) on the development of scenarios.[41] Once multiple organizational entries were omitted from the data, 60 total offices provided rough cost estimates. These organizations incurred an estimated cost for developing unclassified scenarios of $30.9 million annually. The same group estimated their annual cost of developing classified scenarios as $52.4 million.

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[41] All estimates not provided in dollars were converted to dollars by estimating that 1 man-year was equal to $200,000 (USD). Other estimates could have been used, but this was a reasonable average of man-year estimates throughout the community.

Given the variety of sources of scenarios discussed above, much of the cost associated with scenario development is related to the cost of developing them anew or significantly modifying existing scenarios to meet an organization's needs. Therefore, several potential alternatives for satisfying unclassified scenario needs might improve the reuse of existing scenarios, thus reducing the cost of scenario development to individual organizations (although some increased headquarters costs might occur). Questionnaire respondents were provided with three notional alternatives for meeting their unclassified scenario need, and each was judged to result in significant annual cost savings (see figure 4-10). The first phase of the study made no assumptions about which alternative was most desirable.
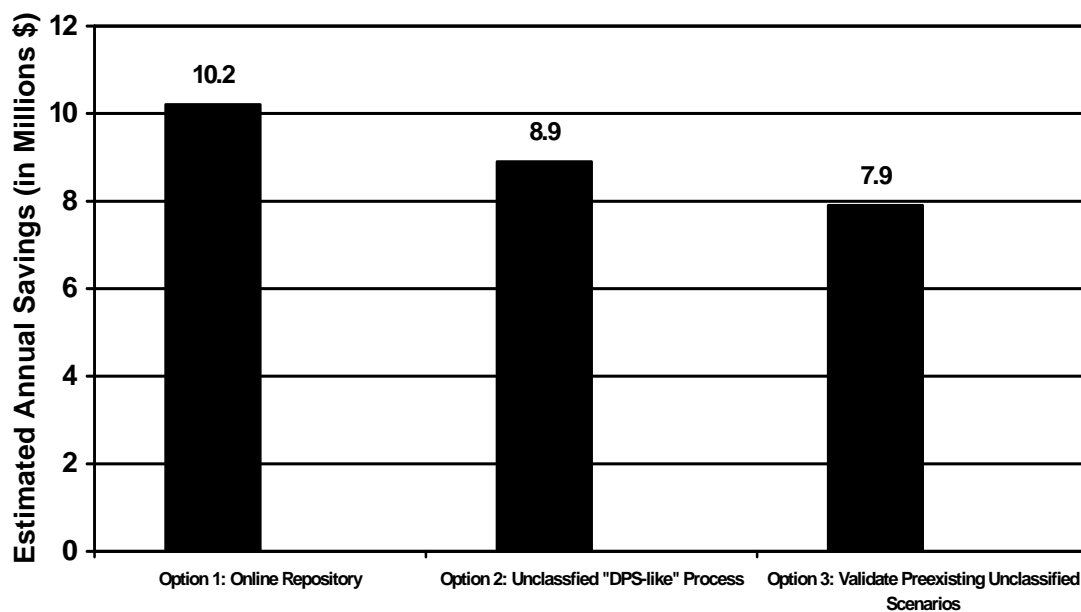
Figure 4-10. Estimated Annual Cost Savings for Proposed Unclassified Scenario Options

B. COMMUNITY PERSPECTIVE BY ACTOR/ORGANIZATION

The preceding section addressed how national security organizations in aggregate view scenarios. This section addresses how individual organizations in the community define and use scenarios. Nine distinct actors/organization were included in the assessment: the Office of the Secretary of Defense, Joint Staff, Military Services, Combatant Commands, service schools and academia, U.S. interagency, foreign partners, defense industry, and other select organizations (federally funded research and development centers, DoD agencies, etc.). Each is discussed in greater detail in terms of its composition, how its views are similar to the aggregate results, key differences or

unique perspectives, and additional findings that emerged from interviews and discussions with the organization.[42]

1.   Office of the Secretary of Defense

OSD accounted for 10 of the 78 (13 percent) questionnaire responses IDA received. The 10 responses were from 6 OSD offices, as follows: 4 responses from Program Analysis and Evaluation (OSD PA&E), 2 responses from Networks Information and Infrastructure (OSD NII), and 1 response each from Personnel and Readiness (OSD P&R), Operational Test and Evaluation (OSD OT&E), Intelligence (OSD I), and Policy (OSD Policy).
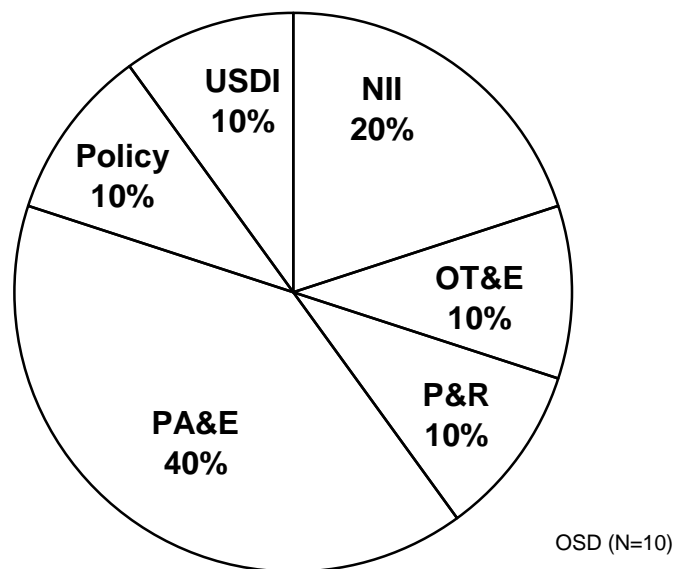
Figure 4-11. Breakdown of OSD Respondents

a. OSD Agreement with Key Aggregate Responses

OSD questionnaire responses generally were consistent with aggregate responses for a number of key findings. This section identifies the key areas of agreement between OSD respondents and aggregate response percentages.

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[42]   These sections highlight only the key areas of agreement and disagreement between organizational and aggregate responses. For more detail on all areas of agreement and disagreement, see Volume 2 of this study (in CD-Rom at the back of Volume 1) for graphical depiction of all survey data.

1) Demand for Unclassified Scenarios

When asked whether they would use unclassified scenarios if they were more readily available, 60 percent of OSD respondents noted that they would, comparing favorably to the 61 percent aggregate response for the question.[43] Thus, OSD's demand for unclassified scenarios reflects that of the general demand for unclassified scenarios that exists throughout the national security community.

2) Scenario Definition and Components

OSD respondents also agreed with the aggregate on the proposed definition of *scenario* and the key components used to build a scenario. When asked if their organization defines a *scenario* as a "depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission", 70 percent of OSD respondents marked "yes," a percentage that is close to the 78 percent of aggregate respondents who also marked "yes" in agreement.[44]

Similarly, when asked to measure how important given scenario components are to constructing a scenario, *all* OSD respondents marked each component as being "important," as did nearly every other non-OSD respondent.[45]

3) Existing and Forthcoming Classified Scenarios

OSD and aggregate responses also were in agreement with regard to the utility of existing and forthcoming classified scenarios. When asked if existing and forthcoming classified scenarios generally met their organization's needs, 64 percent of all respondents answered "yes"; 80 percent of OSD respondents chose the same response.[46]

4) Methods of Acquiring Unclassified Scenarios

Finally, OSD and aggregate responses were consistent with regard to unclassified scenario acquisition. Aggregate analysis of the questionnaire data found that 90 percent

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[43] Results are from question 4 of the online questionnaire.

[44] Results are from the first question of the online questionnaire. Definition is an adapted from definition of "Defense Planning Scenario." See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm. 18 July. 2007.

[45] On question 12 of the online questionnaire, respondents were asked to mark the importance of: assumptions, context/road to war, threat/challenge, objectives, strategic concept, concept of operations, and forces data. For each component at least 95 percent of all respondents marked them as being "important".

[46] Results are from question 13 of the online questionnaire.

of respondents acquired unclassified scenarios by developing them anew. Likewise, 100 percent of OSD respondents noted that developing unclassified scenarios anew was the preferred method of procuring unclassified scenarios.[47]

b. OSD Disagreement with Key Aggregate Responses

The only key area of divergence between OSD and aggregate responses occurred in the methods by which OSD procures classified scenarios.[48] As a whole, over 70 percent of respondents informed the IDA study team that they acquired classified scenarios by modifying existing classified scenarios, while a lesser number of respondents noted that they acquired them from other sources, developed them anew, or modified existing unclassified scenarios. Conversely, over 65 percent of OSD respondents noted that they acquire classified scenarios by developing them anew, while just over 30 percent of OSD respondents chose the aforementioned most popular aggregate method of classified scenario procurement. This is likely explained, at least in part, by the fact that a majority of OSD respondents are involved in some way with the development and/or use of the DPS. For a complete comparison of methods used to acquire classified scenarios, see Figure 4-12 and Figure 4-13.[49]

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[47] Results are from question 16 of the online questionnaire. All (100 percent) of OSD respondents also noted that they modify existing unclassified scenarios as a method of scenario acquisition. Respondents were able to choose more than one option.

[48] Results are from question 17 of the online questionnaire.

[49] Percentages will exceed 100 percent because respondents were able to choose more than one option.

• Respondents were able to choose more than one answer; percentages will exceed 100

METHOD OF ACQUISITION
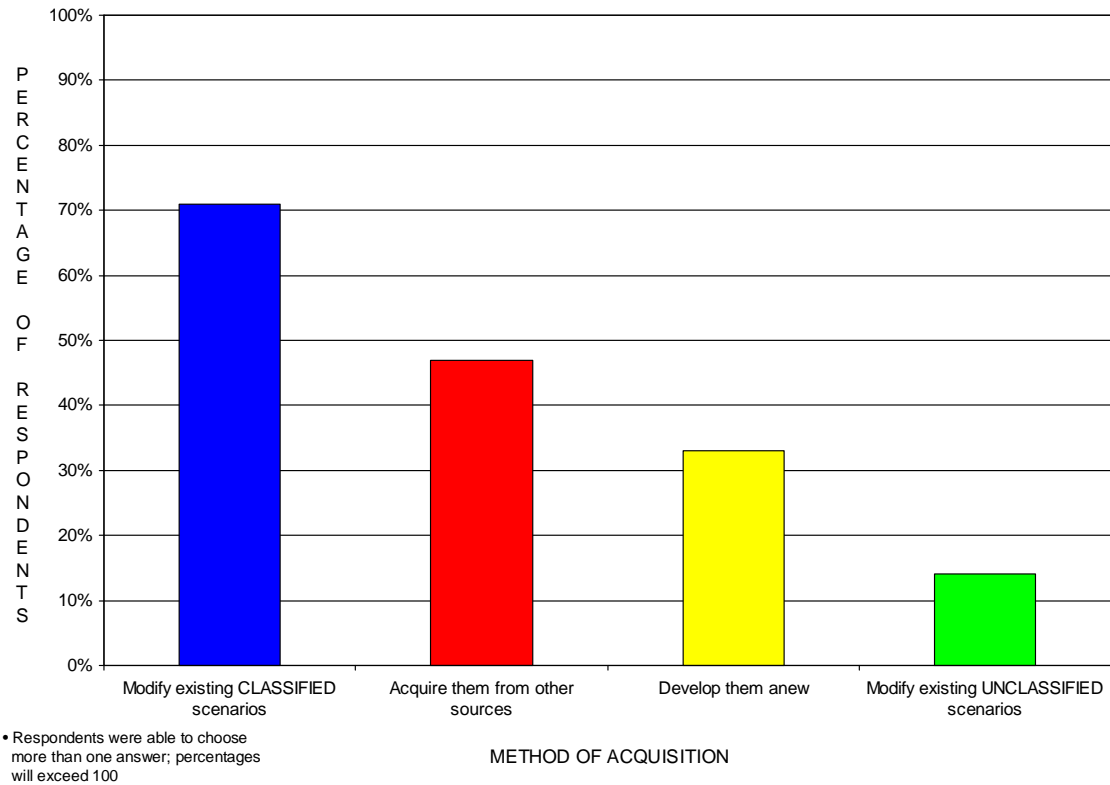
Figure 4-12. Method of Acquiring Classified Scenarios (Aggregate)

• Respondents were able to choose more than one answer; percentages will exceed 100

METHOD OF ACQUISITION

N=9
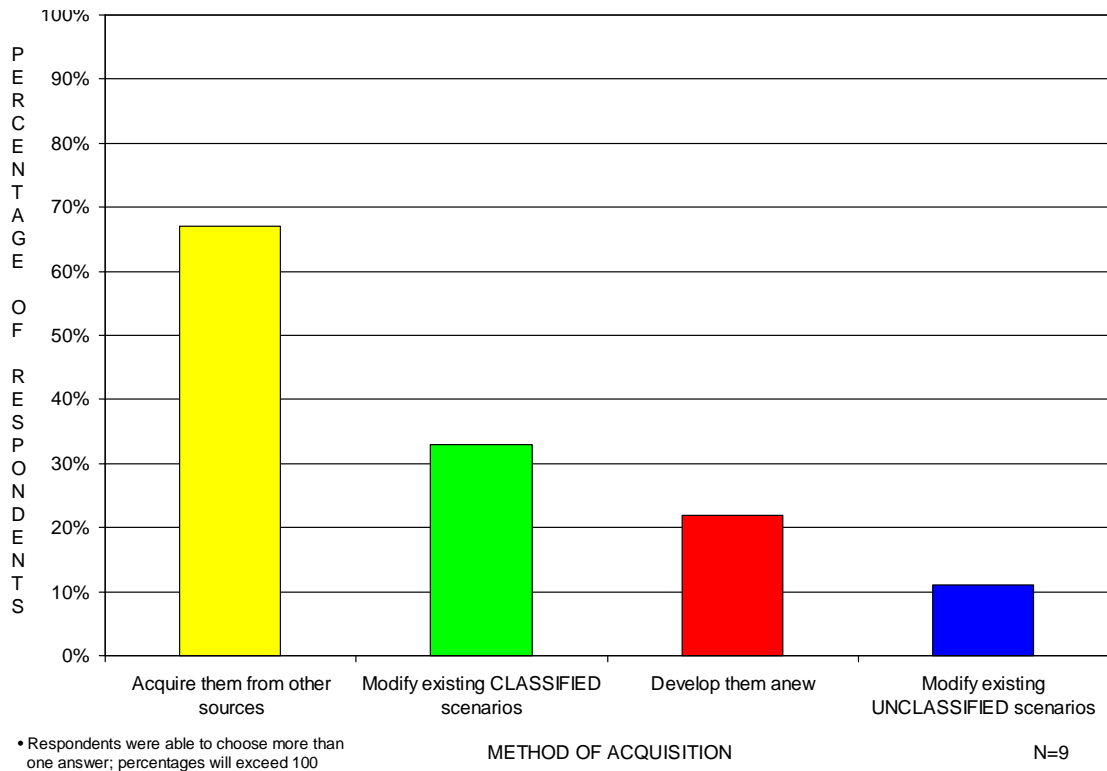
Figure 4-13. Method of Acquiring Classified Scenarios (OSD Respondents)

c. Summary

With only one significant area of divergence between OSD and aggregate questionnaire responses, it can be concluded that OSD responses generally were consistent with the aggregate responses on key issues. Most significantly, OSD's demand for unclassified scenarios closely reflects the aggregate demand for unclassified scenarios. Thus, it can be deduced that OSD would benefit from potential alternatives that help satisfy existing demand for unclassified scenarios.

2. Joint Staff

The Joint Staff accounted for 7 of the 78 (9 percent) questionnaire responses. The 7 responses were from 4 different Joint Staff directorates, as follows: 3 responses from the Force Structure, Resources, and Assessment Directorate (J8); 2 responses from the Directorate of Operational Plans and Joint Force Development (J7); and 1 response each from the Directorate of Strategic Plans and Policy (J5) and the Directorate of Logistics (J4).
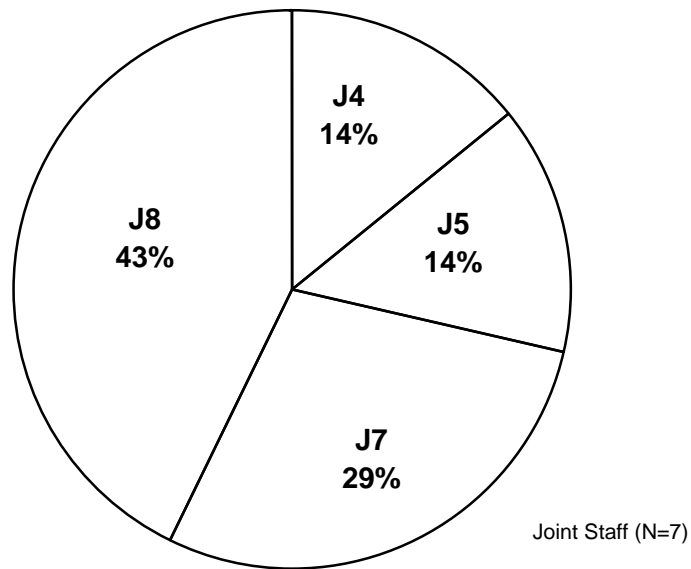
Figure 4-14. Breakdown of Joint Staff Respondents

a. Joint Staff Agreement with Key Aggregate Responses

The following section identifies the key areas of agreement between Joint Staff respondents and aggregate response percentages.

1) Scenario Definition and Components

All Joint Staff respondents agreed with the aggregate group of respondents on the proposed definition of *scenario* and the key components used to build a scenario. When asked if their organization defines a *scenario* as a "depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission," 100 percent of Joint Staff respondents marked "yes," a percentage that is close to the 78 percent of aggregate respondents who also marked "yes" in agreement.[50]

Additionally, when asked to measure how important given scenario components are to constructing a scenario, *all* Joint Staff respondents marked each component as being "important," as did nearly every other non-Joint Staff respondent.[51]

2) Existing and Forthcoming Classified Scenarios

A second key area of agreement between the Joint Staff and aggregate response relates to the utility in existing and forthcoming classified scenarios. According to the questionnaire responses, 67 percent of Joint Staff respondents answered "yes" when asked if existing and forthcoming classified scenarios generally met their organization's needs. This percentage reflects the 64 percent of the overall respondents who also marked "yes."[52]

3) Methods of Acquiring Classified Scenarios

Approximately 70 percent of both Joint Staff and aggregate respondents indicated that they procure classified scenarios by modifying existing classified scenarios. In addition, Joint Staff also rank-ordered acquiring classified scenarios from other sources, developing them anew, and modifying existing unclassified scenarios as the next most

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[50] Results are from the first question of the online questionnaire. Definition is an adapted from definition of "Defense Planning Scenario." See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm. 18 July. 2007

[51] In question 12 of the online questionnaire, respondents were asked to mark the importance of: assumptions, context/road to war, threat/challenge, objectives, strategic concept, concept of operations, and forces data.

[52] Results are from question 13 of the online questionnaire.

popular methods of classified scenario acquisition. This order exactly reflects the order depicted by the aggregate of questionnaire respondents.[53]

4) Methods of Acquiring Unclassified Scenarios

There is also substantial agreement between Joint Staff and aggregate respondents about the most popular method of acquiring unclassified scenarios. According to the questionnaire responses, over 90 percent of the aggregate respondents acquire unclassified scenarios by developing them anew. Likewise, *all* of the Joint Staff respondents noted that they too primarily acquire unclassified scenarios by developing them anew.[54]

b. Joint Staff Disagreement with Key Aggregate Responses

Joint Staff questionnaire responses diverged from the aggregate responses only with regard to demand for unclassified scenarios.[55] As an aggregate, 61 percent of questionnaire respondents noted that they *would* use unclassified scenarios more often if they were more readily available. This finding indicated that there is an aggregate demand for unclassified scenarios in the national security community. However, the Joint Staff's demand for unclassified scenarios does not appear to be as strong since 57 percent of Joint Staff respondents indicated that they would *not* use unclassified scenarios if they were more readily available. For a complete graphical comparison between aggregate and Joint Staff respondents, see Figure 4-15 and Figure 4-16.

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[53] Results are from question 16 of the online questionnaire. Respondents were able to choose more than one option.

[54] Results are from question 17 of the online questionnaire.

[55] Results are from question 4 of the online questionnaire.
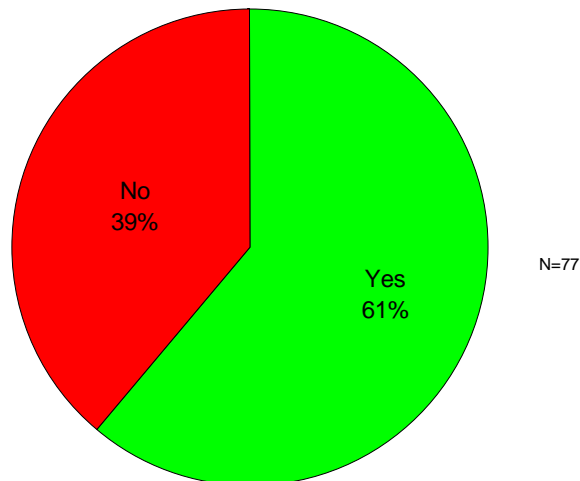
Figure 4-15. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Aggregate)

Figure 4-16. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Joint Staff)

c. Summary

Although Joint Staff and aggregate respondents largely agreed on key issues, the one area of divergence pertains to the most significant finding of the study; that is, on the whole there is a demand for unclassified scenarios. Since there appears to be a significantly weaker demand for unclassified scenarios in the Joint Staff, it is possible that any options implemented to meet the overall demand for unclassified scenarios would be of little utility to the Joint Staff, and may only be useful to a smaller niche of Joint Staff unclassified scenario users and developers.

3. Military Services

The Military Services accounted for 22 of the 78 (~28 percent) questionnaire responses. The 22 responses were from 4 Service branches, as follows: 7 responses each from the Air Force and Navy, 6 from the Army, and 2 from the Marine Corps.
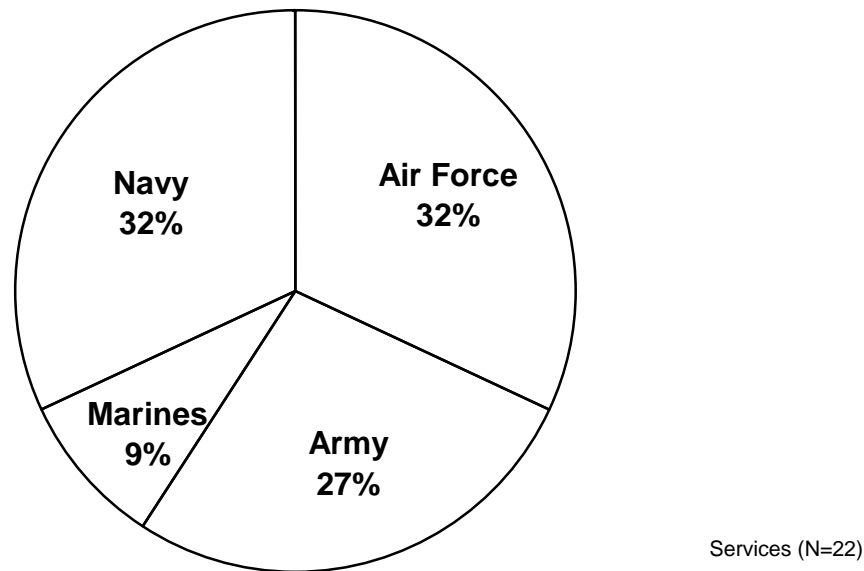
Services (N=22)

Figure 4-17. Breakdown of Service Respondents

a. Military Services' Agreement with Key Aggregate Responses

The following section identifies the key areas in which the Military Services' questionnaire responses were consistent with aggregate response percentages.

1) Scenario Definition and Components

When asked if their organization defines *scenario* as a "depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission" over 80 percent of Military Services respondents answered "yes", a total that nearly matches the 78 percent aggregate response to the same question.[56]

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[56] Results are from the first question of the online questionnaire. Definition is an adapted from definition of "Defense Planning Scenario." See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm. 18 July. 2007

In addition, when asked to measure how important given scenario components are to constructing a scenario, nearly all Military Service respondents marked each component as being "important," as did nearly every other non-Military Service respondent. The lone exception came from the "Strategic Concept" component, which 5 percent of Military Services respondents said was "not important" to scenario development.[57]

2) Existing and Forthcoming Classified Scenarios

The Military Services' responses also were consistent with aggregate responses regarding the utility of existing and forthcoming classified scenarios. When asked if existing and forthcoming classified scenarios generally met their organization's needs, 68 percent of Military Service respondents answered "yes." This percentage is consistent with the 64 percent of the overall respondents who also marked "yes."[58]

3) Methods of Acquiring Classified Scenarios

For both Military Service responses and aggregate responses, approximately 70 percent indicated that classified scenarios were acquired through the modification of some existing set of classified scenarios. Additionally, between 40 and 45 percent of both Military Service responses and aggregate responses indicated that the second most popular method of acquiring classified scenarios was to acquire them from other sources. The next most popular methods for procuring classified scenarios, according to both Military Service responses and aggregate responses, were to develop classified scenarios anew or modify existing unclassified scenarios.[59]

4) Methods of Acquiring Unclassified Scenarios

Overwhelmingly, both Military Services' and aggregate responses indicate that the organizations generally acquire unclassified scenarios by developing them anew. According to analysis of the questionnaire data, 100 percent of Military Service respondents chose developing unclassified scenarios anew as the preferred method of

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[57] On question 12 of the online questionnaire, respondents were asked to mark the importance of: *assumptions*, *context/road to war*, *threat/challenge*, *objectives*, *strategic concept*, *concept of operations,* and *forces data*. For each component at least 95 percent of all respondents marked them as being "important."

[58] Results are from question 13 of the online questionnaire.

[59] Results are from question 16 of the online questionnaire. Respondents were able to choose more than one option.

acquiring unclassified scenarios, while over 90 percent of aggregate responses indicated the same preference.

Furthermore, at least 60 percent of both response sets indicated that modifying existing unclassified scenarios was the next most popular method of acquiring unclassified scenarios.[60]

b. Military Services' Disagreement with Key Aggregate Responses

The Military Services' responses diverged from the aggregate responses only with regard to demand for unclassified scenarios.[61] The following section describes how the two sets of responses differed.

1) Demand for Unclassified Scenarios

Sixty-one percent of questionnaire respondents in the aggregate noted that they *would* use unclassified scenarios more often if they were more readily available. This finding indicated that there is a demand for unclassified scenarios in the national security community as a whole. Among the Military Services, demand for unclassified scenarios does exist, although it is not as strong as the demand indicated in the aggregate responses. When asked if they would use unclassified scenarios if they were more readily available, only 50 percent of Military Service respondents marked "yes," while the other 50 percent marked "no." This finding suggests that demand for unclassified scenarios does exist in the Military Services, but to a lesser degree than in the national security community as a whole. For a complete graphical comparison between aggregate and Military Service respondents, see Figure 4-18 and Figure 4-19.

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[60] Results are from question 17 of the online questionnaire.

[61] Results are from question 4 of the online questionnaire.

Figure 4-18. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Aggregate)
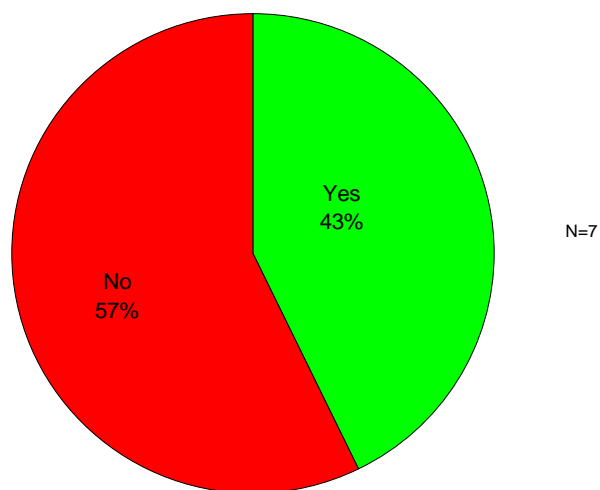

Figure 4-19. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Service Response)

c. Summary

There is strong agreement between Military Services and aggregate respondents across a range of issues. However in the study's most important finding, the existing demand for unclassified scenarios, there is a slight divergence between Military Services and aggregate respondents. Because the demand for unclassified scenarios appears to be smaller in the Services than in the rest of the national security community, one can reasonably deduce that perhaps any options implemented to meet the overall demand for unclassified scenarios would not be as useful to the Military Services.

4. Combatant Commands

Of the 78 questionnaire responses that were received, 16 (28 percent) were from the United States Unified Combatant Commands (COCOMs). IDA received 6 responses from Joint Forces Command (JFCOM), 3 responses from Southern Command (SOUTHCOM), and 1 response each from Central Command (CENTCOM), European Command (EUCOM), Pacific Command (PACOM), Northern Command (NORTHCOM), Southern Command (SOUTHCOM), Special Operations Command (SOCOM), Strategic Command (STRATCOM), and Transportation Command (TRANSCOM).[62]
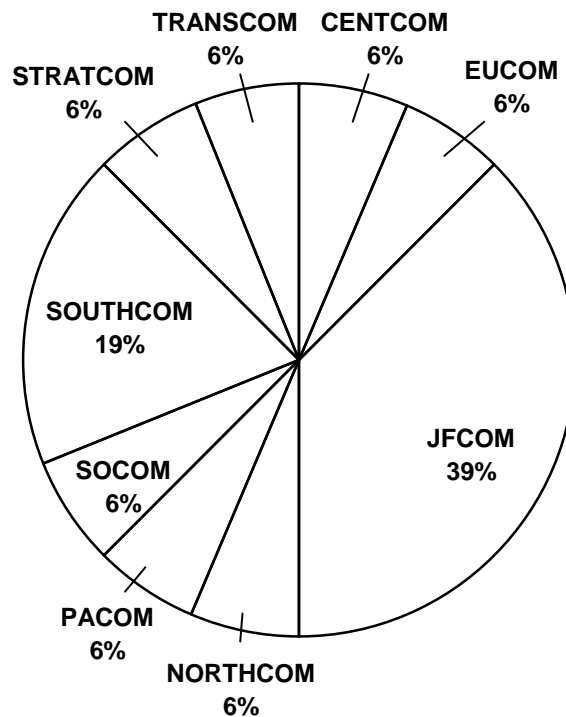
COCOM (N=16)

Figure 4-20. Breakdown of COCOM Respondents

a. COCOM Agreement with Key Aggregate Responses

This section identifies the key areas of agreement between COCOM respondents and aggregate response percentages.

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[62] Africa Command (AFRICOM) was not included because it is not yet a fully operational COCOM.

1) Scenario Definition and Components

Eighty percent of COCOM respondents marked "yes" when asked if their organization defines *scenario* as a "depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission." That percentage nearly matches the 78 percent of "yes" responses to the same question in the aggregate.[63]

Similarly, when asked to measure how important given scenario components are to constructing a scenario, over 90 percent of COCOM respondents marked each component as being "important," as did nearly every other questionnaire respondent.[64]

2) Existing and Forthcoming Classified Scenarios

A second key area of agreement between COCOM and aggregate responses relates to the value of existing and forthcoming classified scenarios. When asked if existing and forthcoming classified scenarios generally met their organization's needs, 60 percent of COCOM respondents answered "yes," which is consistent with the 64 percent aggregate response.[65]

3) Methods of Acquiring Classified Scenarios

The most popular method used by both the COCOMs and the rest of the questionnaire respondents to obtain classified scenarios is to modify existing classified scenarios. In fact, over 85 percent of COCOM respondents indicated that they used this method to acquire classified scenarios, and over 70 percent of aggregate respondents noted that they used the same method of classified scenario acquisition.[66]

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[63] Results are from the first question of the online questionnaire. The definition is adapted from the definition of "Defense Planning Scenario." See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm, 18 July. 2007

[64] On question 12 of the online questionnaire, respondents were asked to mark the importance of: *assumptions*, *context/road to war*, *threat/challenge*, *objectives*, *strategic concept*, *concept of operations*, and *forces data*. For each component at least 95 percent of all respondents marked them as being "important."

[65] Results are from question 13 of the online questionnaire.

[66] Results are from question 16 of the online questionnaire. Respondents were able to choose more than one option.

4) Methods of Acquiring Unclassified Scenarios

The two most popular methods of acquiring unclassified scenarios, as indicated by the aggregate responses, are to develop them anew and modify existing unclassified scenarios. COCOM respondents also indicated that these two methods of acquiring unclassified scenarios were the most effective, as 100 percent of COCOM respondents said they acquired unclassified scenarios by developing them anew, and 60 percent noted that they modify existing classified scenarios. These percentages are close to the over 90 percent and approximately 70 percent of aggregate responses for each method, respectively.[67]

b. COCOM Disagreement with Key Aggregate Responses

The COCOM questionnaire responses diverged from aggregate responses only with regard to the demand for unclassified scenarios.[68] This section describes the difference between COCOM and aggregate unclassified scenario demand.

1) Demand for Unclassified Scenarios

Demand for unclassified scenarios does exist within the COCOM community, but to a slightly lesser degree than the aggregate demand for unclassified scenarios. The online questionnaire indicated that 61 percent of the respondents would use unclassified scenarios if they where more readily available, while only 53 percent of the COCOM subset of respondents indicated they would do likewise. For a complete graphical comparison between aggregate and COCOM respondents, see Figure 4-21 and Figure 4-22.

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[67]   Results are from question 17 of the online questionnaire.

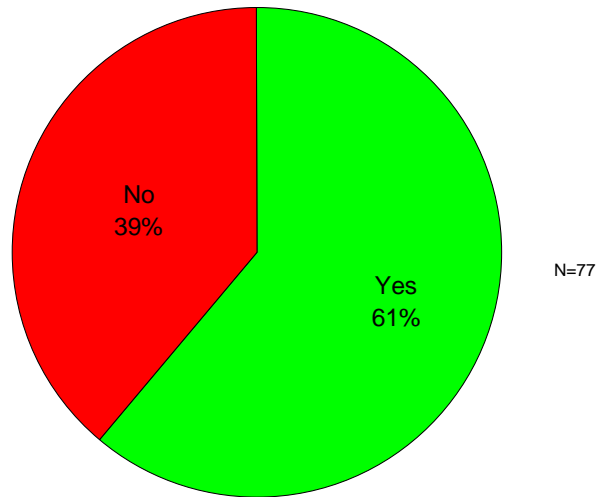[68]   Results are from question 4 of the online questionnaire.
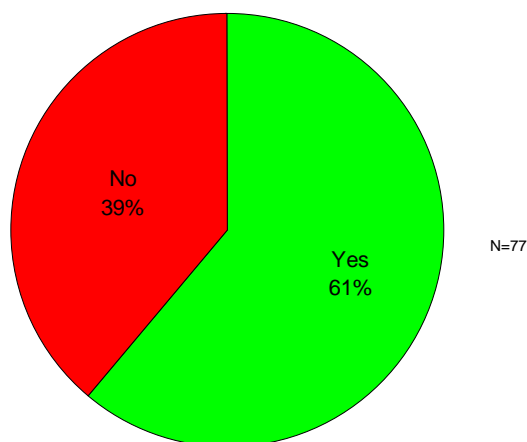
Figure 4-21. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Aggregate)
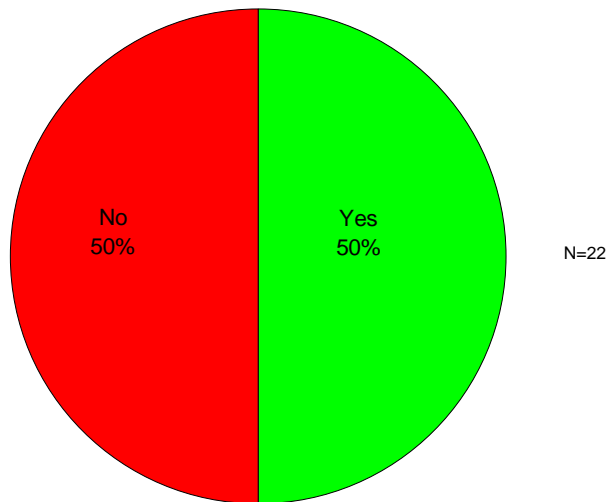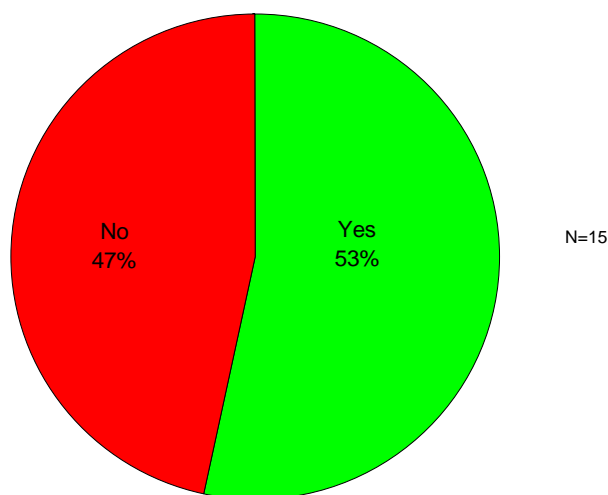

Figure 4-22. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (COCOM Response)

c. Summary

Generally there was strong agreement between COCOM and aggregate responses across a range of key issues. The only slight difference between the COCOM and aggregate responses pertained to the demand for unclassified scenarios. While demand for unclassified scenarios does exist within the COCOM community, it is not as strong as the overall demand for unclassified scenarios.

5. Service Schools and Academia

The study's sponsors distributed the IDA-developed online questionnaire to several DoD and non-DoD academic institutions that develop and use scenarios. Of the

78, questionnaire responses received, 5 (6 percent) were from the group of service schools/academia. Responses were received from the Army War College (2), the Naval War College (1), the Informational Science Institute (1), and the Georgia Institute of Technology (1).

Service Schools/Academia (N=5)
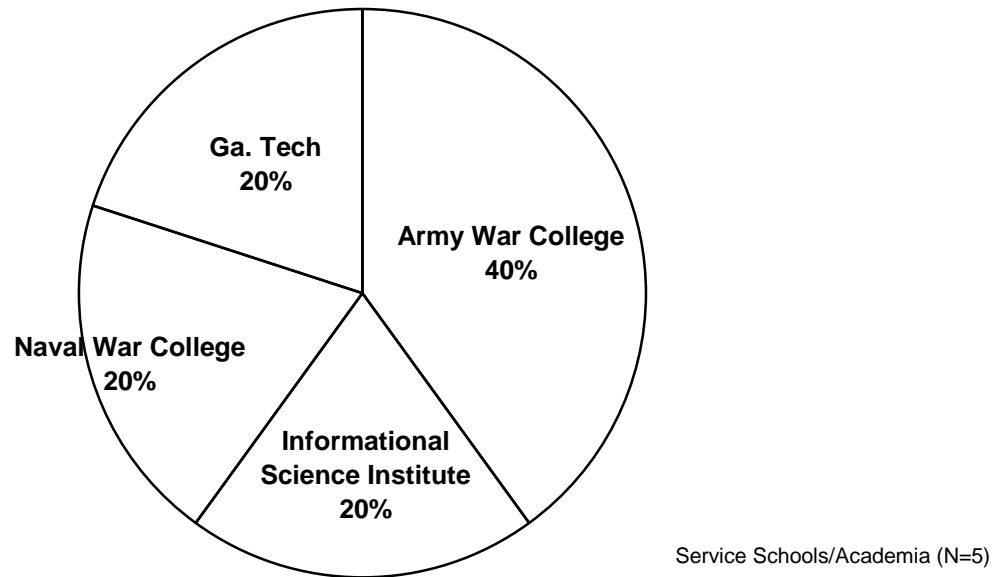
Figure 4-23. Breakdown of Service Schools/Academia

a. Service Schools/Academia Agreement with Key Aggregate Responses

This section identifies the key areas of agreement between Service Schools/Academia respondents and aggregate response percentages.

1) Scenario Components

The Service Schools/Academia responses and the aggregate responses strongly agreed on the subject of components necessary for building a scenario. Ninety to 100 percent of both the aggregate and Service Schools/Academia responses indicated that all proposed scenario components were "important" to scenario development.[69]

2) Existing and Forthcoming Classified Scenarios

A second similarity between Service Schools/Academia and aggregate responses emerged on the subject of classified scenarios. When asked if existing and forthcoming

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[69] On question 12 of the online questionnaire, respondents were asked to mark the importance of: *assumptions*, *context/road to war*, *threat/challenge*, *objectives*, *strategic concept*, *concept of operations*, and *forces data*.

classified scenarios generally met their organization's needs, 67 percent of Service Schools/Academia respondents marked "yes," which is close to the 64 percent of aggregate respondents who chose the same answer.[70]

3) Methods of acquiring Classified Scenarios:

The Service Schools/Academia respondents generally used the same methods as the aggregate set of respondents when acquiring classified scenarios. According to the aggregate responses, the two most popular classified methods of acquiring scenarios were to modify existing classified scenarios or obtain them from other sources. For the Service Schools/Academia respondents, 100 percent indicated that they, too, used these methods in order to acquire classified scenarios.[71]

4) Methods of acquiring Unclassified Scenarios:

The Service Schools/Academia respondents also used the same methods as the aggregate set of respondents when acquiring unclassified scenarios. According to the aggregate responses, developing unclassified scenarios anew (over 90 percent) and modifying existing unclassified scenarios (approximately 70 percent) were the two most popular methods of acquiring unclassified scenarios. Likewise, Service Schools/Academia respondents indicated these were the two most popular methods of acquiring unclassified scenarios, matching almost exactly the percentages indicated by the aggregate set of respondents.[72]

b. Service Schools/Academia Disagreement with Key Aggregate Responses

The Service Schools/Academia responses diverged from the aggregate responses in two key areas. The first pertained to the demand for unclassified scenarios; the second, to the definition of the word *scenario*. This section describes the differences

1) Scenario Definition

According to analysis of the online questionnaire responses, 78 percent of the aggregate agreed that their organization generally defined *scenario* as a "depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities,

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[70] Results are from question 13 of the online questionnaire.

[71] Results are from question 16 of the online questionnaire. Respondents were able to choose more than one option.

[72] Results are from question 17 of the online questionnaire.

and a strategic concept for carrying out that mission." The Service Schools/Academia respondents also agreed with the proposed definition, but not as strongly, as only 60 percent of the subset agreed with the proposed definition.[73] For a complete graphical comparison between aggregate and Service Schools/Academia respondents, see Figure 4-24 and Figure 4-25.
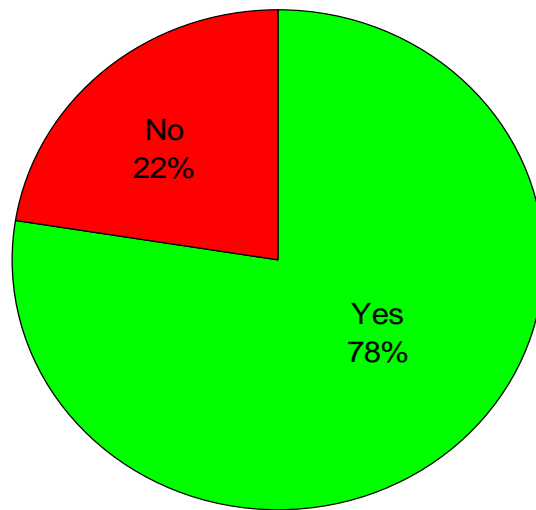
Figure 4-24. Agree with Common Scenario Definition (Aggregate)
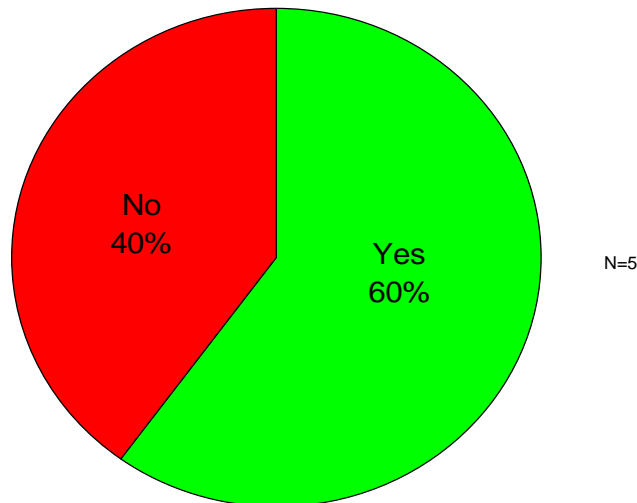
Figure 4-25. Agree with Common Scenario Definition (Service Schools/Academia)

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[73] Results are from the first question of the online questionnaire. The definition is adapted from the definition of "Defense Planning Scenario." See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm, 18 July 2007.

2) Demand for Unclassified Scenarios

The second key difference between the Service Schools/Academia and aggregate respondents relates to the demand for unclassified scenarios. While both groups of respondents indicated that there was a demand for unclassified scenarios, the Service Schools/Academia respondents indicated a much stronger demand. For the Service Schools/Academia respondents, 80 percent indicated that they would use unclassified scenarios if they were more readily available, compared with 61 percent of aggregate respondents who gave the same answer. For a complete graphical comparison between aggregate and Service Schools/Academia respondents, see Figure 4-26 and Figure 4-27.
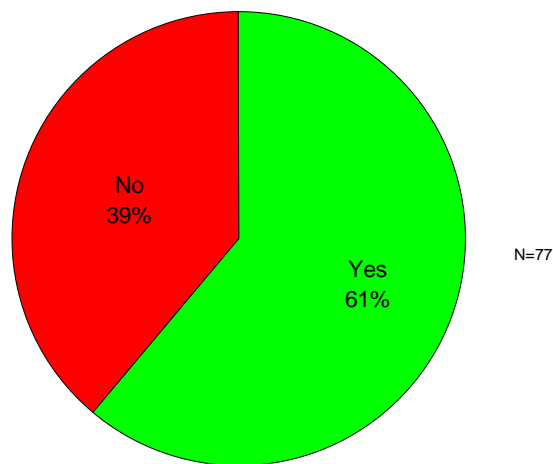
Figure 4-26. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Aggregate)
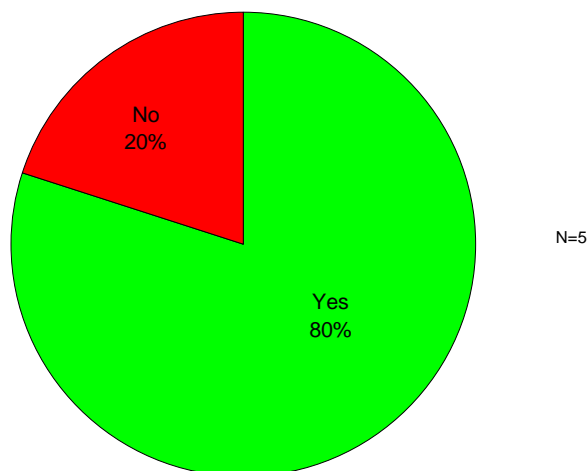
Figure 4-27. Respondents Indicating Greater Use of Unclassified Scenarios If Made More Accessible (Service Schools/Academia)

c. Summary

Generally there was strong agreement between Service Schools/Academia and aggregate respondents across a range of key issues. Key differences did emerge, however, particularly in relationship to the study's most important finding—the demand for unclassified scenarios. Since the demand for unclassified scenarios in the Service Schools/Academia community appears to be significantly stronger than the demand in the national security community as a whole, it is reasonable to assume that any options implemented to meet the overall demand for unclassified scenarios would be of great utility to the Service Schools/Academia community.

6. U.S. Interagency

During October and September of 2007, IDA conducted a series of formal and informal interviews with DoD's U.S. interagency partners. In all, IDA was in contact with the U.S. Department of State, the U.S. Department of Homeland Security, the U.S. Department of Energy, and the U.S. Department of Treasury. Most of the data from the interagency was provided during interviews; the only organization to complete the questionnaire was the Department of State (which completed two questionnaires).

a. U.S. Interagency Agreement with Key Aggregate Responses

For topics on which the U.S. interagency agreed with the aggregate questionnaire responses, the level of agreement was generally the same. One notable area of agreement was in satisfaction with existing classified scenario products. The interagency respondent agreed with the majority of respondents (64 percent) who expressed satisfaction with existing DoD classified scenario products. Examples include the DPS, Multi-Service Force Deployment Document (MSFD), etc. A major reason for this is likely the increased participation by the interagency in DoD classified scenario development.

b. U.S. Interagency Disagreement with Key Aggregate Responses

This section identifies the key areas of disagreement between U.S. interagency respondents and aggregate response percentages.

1) Scenario Definition

Whereas a majority of respondents (78 percent) agreed with the definition of *scenario* that was provided in the questionnaire, the interagency respondents were split in their support for it (50 percent). This is explained in large part by the fact that only two questionnaire respondents were from the interagency. However, this split was also echoed in discussions with other interagency representatives who saw scenarios differently, depending on how they were used. Specifically, they conceived of scenarios being used for planning/preparation as opposed to capability mix analysis. Therefore, their definitions tended to focus less on military challenges and forces and more on environmental conditions that present a challenge.

2) Scenario Time Frame

Another interesting area where the interagency departed from the aggregate response was in the time frames that the scenarios must address. Whereas the aggregate was roughly divided across the three time frames it needed scenarios to address—near-term (0–4 years), mid-term (5–9 years), and long-term (10+ years)—the interagency respondents indicated they needed only near- and long-term scenarios. This is likely explained by the planning horizons used by those organizations. Although some DoD and allied organizations distinguish between time frames, the interagency may not need to and instead merely thinks in terms of near- and longer-term challenges.

c. Summary

In our discussions with various U.S. government interagency partners, we found that their *unclassified* and *classified* scenario use is as broad and diverse as the offices they represent. The requirements for *unclassified* and *classified* scenario development and use could be based upon testing mid-term and long-range U.S. government policies which are not well defined or could be driven by a National Security Presidential Directive (NSPD).[74] The scenarios could also be used to determine how to integrate non-governmental agencies and humanitarian assistance relief efforts into military plans or to estimate the number of mass casualties of U.S. citizens. *Unclassified* scenarios could also be used in preparation for a large-scale event (e.g., the Pan American Games[75]) to identify gaps in capabilities. In addition, the length and scope of the scenarios vary from

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[74] The National Security Presidential Directive (NSPD) is a type of presidential directive covering national security policy signed by the President.

[75] Pan American Games are a multi-sport event, held every 4 years between competitors from all nations of the Americas.

two pages—long enough perhaps to test a particular emergency plan or flesh out a key decision making process—to several hundred pages long, perhaps in support of a military exercise (e.g., Cobra Gold[76]) where scenario assumptions are tested and challenged by subject matter experts (SME) to bring more realism to scenarios.

A common theme that surfaced in the not-for-attribution discussion involved budget and resource constraints. Many offices lack sufficient staff to support the myriad exercise scenarios that take place in the DoD community and across the U.S. interagency. This insufficiency limits their level and degree of participation. Interagency partners have to make tough choices as to which exercise to participate in and put forth their scarce resources. This might have long-term effects on the capabilities, integration, and coordination of U.S. interagency partners when they are called upon to provide rapid response and sustained support to an event somewhere in the world.

Finally, one U.S. interagency partner IDA met with was engaged in Project Horizon.[77] This project is funded by 20 U.S. government agencies and it uses *unclassified* scenario-based strategic planning techniques. This is an approach by which organizations develop and test strategies using a systematically created range of alternative futures or unclassified scenarios, and is a proven means of creating strategic and operational alignment across diverse and even conflicting organizations.

7. Foreign Partners

As part of the first phase, IDA also sought the perspectives of some of DoD's key foreign partners through interviews and the online questionnaire. In October 2007, we informally interviewed members of Canada's Department of National Defence (DoND), Australia's DoD, and the United Kingdom's Ministry of Defence (MoD). We also received completed questionnaires from these countries, as follows: Canada, 1 respondent; Australia, 2 respondents; and the United Kingdom, 1 respondent.

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[76] Cobra Gold is a regularly scheduled joint and combined multi-national exercise hosted annually by the Kingdom of Thailand. Cobra Gold is the latest in a continuing series of exercises designed to promote regional peace and security.

[77] Project Horizon brings together senior executives from global affairs agencies and the National Security Council to conduct long-term, interagency strategic planning. The purpose of the project is to develop realistic interagency strategies and identify capabilities in which the government should invest in order to prepare for the unforeseen threats and opportunities that will face the nation during the next 20 years. For more information, see www.osif.us/images/Project_Horizon_Progress_Report.pdf.

a. Foreign Partners' Agreement with Key Aggregate Responses

This section identifies the key areas of agreement between foreign partner respondents and aggregate response percentages.

1) Unclassified Scenario Usage

One important area in which foreign partner responses were consistent with the aggregate responses was the extent to which they would use unclassified scenarios if they were made more readily available. Over 60 percent of total respondents indicated that they would make greater use of unclassified scenarios if they were more readily available, while 75 percent of foreign respondents said that they would do the same. Thus, the respondents strongly supported the use of unclassified scenarios in the functions they perform.

2) Classified Scenario Products

Another key area of agreement is the level of satisfaction with existing classified scenario products. Over 60 percent of the total questionnaire respondents expressed satisfaction with these scenarios, while all foreign partner respondents (100 percent) expressed satisfaction with the same products. This suggests that the U.S. classified products are on the right path to satisfying foreign partner needs. This is likely due to the fact that key partners have been recently involved with the development of relevant U.S. scenario products. This is break from the past where U.S. scenario products were developed by DoD alone, and did not benefit from the insights/experiences of likely foreign allies.

b. Foreign Partners' Disagreement with Key Aggregate Responses

Another key area where U.S. foreign partners departed from the aggregate response was in the time frames that the scenarios must address. Whereas the aggregate was roughly divided across the three time frames it needed scenarios to address—near, mid, and long term—foreign partners reported that they did not use scenarios for the near-term time frame. Instead, a majority of foreign respondents indicated that they use scenarios for long-term planning activities.

c. Summary

Based on both the questionnaire responses and the interviews with selected foreign partners, it is clear that they all use unclassified scenarios; some for slightly

different purposes. For example, one country once used *unclassified,* made-up, illustrative scenarios for force development. However, it no longer uses these scenarios because they lacked credence with senior military decision-makers and were deemed inadequate by the department of national defense. Whether this country would consider using *unclassified* scenarios again depends on its level of participation and on the quality of input from its SMEs and non-governmental organizations.

Another country is currently undergoing changes in its defense planning scenario development process and is looking for ways to increase the participation of non-defense government agencies' and test their capabilities. One plausible way is to develop a set of *unclassified* scenarios which might allow for greater participation from their ministries of defense, foreign affairs, development, and justice.

The third foreign country that participated in the study had narrow use for *unclassified* scenarios because they lacked accuracy in content, threats, or challenges. Such deficiencies would yield problematic results. If this country needed to collaborate and broaden participation or develop *unclassified* scenarios for training, the user would develop the scenarios.

The value of a central repository of *unclassified* scenarios was a common theme among foreign government interviewees and questionnaire respondents. The proponents of a repository thought it would allow them to search a database for *unclassified* scenarios, thereby reducing their production timeline and keeping them from having to develop entirely new scenarios. In addition, for the proponents was the potential to derive several different studies from a common *unclassified* scenario and more easily share analysis and study insights.

8. Industry

The study sponsors distributed the IDA-developed questionnaire to several private defense industry organizations that develop and use scenarios. Of the total 78 questionnaire responses received, 8 (~10 percent) were from industry respondents (see figure 4-27). Responses were received from: Boeing (3), Lockheed Martin (2), Northrop Grumman (1), and Dynamic Analytics and Test (2). The study team also interviewed selected industry representatives, to include SimSummit—an organization representing modeling and simulation companies, especially, small and medium-sized firms.
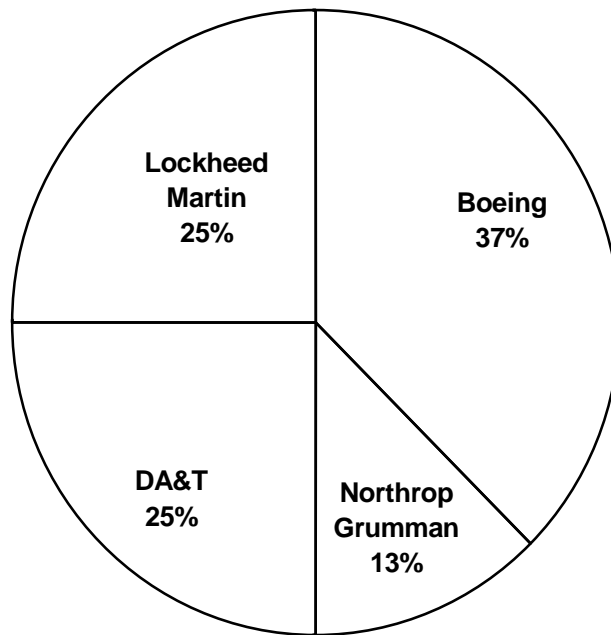
Industry N=8

Figure 4-28. Breakdown of Industry Respondents

a. Industry Agreement with Key Aggregate Responses

This section identifies the key areas of agreement between industry respondents and aggregate response percentages.

1) Scenario Definition

Seventy-eight percent of all questionnaire respondents agreed with the definition of *scenario* provided. Not only did industry generally agree with the definition, but *all* industry respondents agreed with the definition of scenario. This provides further evidence of commonality in scenario definition and the possibility of creating a universal DoD definition of the term.

2) Use of Unclassified Scenarios

Another major area of agreement between industry respondents and the aggregate was the extent to which industry reported willingness to use unclassified scenarios more if they were made more readily available. Whereas 61 percent of all respondents reported their willingness to do so, 87 percent of industry respondents indicated they would take greater advantage of unclassified scenarios if they were more accessible.

b. Industry Disagreement with Key Aggregate Responses

One area where there was significant difference between the two was in the important factors influencing their decision not to use classified scenarios in more of their functions. Of the four possible limiting factors offered to respondents, the aggregate responses rated them in the following order of importance (from high to low): *inflexibility of scenario content*, *difficulty in sharing with partners*, *challenges of control and handling*, and *difficulty in accessing*.[78] However, although accessibility was judged, in aggregate, to be of least importance, industry respondents judged it to be the second-most important factor influencing their decision not to use classified scenarios. (The most important factor, according to industry respondents, was the difficulty in sharing with foreign and interagency partners.)

This suggests that lack of access to classified scenarios disproportionately affects industry participants. Indeed, this long-standing lack of access has also sparked other efforts inside the Department to consider possible ways of improving their access to needed information. Some possible factors limiting this are (1) the sensitive nature of government data, and (2) occasional unwillingness of industry to widely share results because of proprietary issues.

c. Summary

Both the questionnaire responses and interviews with industry representatives conveyed a keen interest in unclassified scenarios and a greater demand for more access. However, when dealing with industry, there are number of unclassified, but proprietary issues. These arise both from taking DoD scenarios and adding proprietary material to them, and from developing anew unclassified scenarios with proprietary content. These factors complicate open sharing (in both directions) of unclassified scenario materials.

Lack of accessibility to DoD scenario products is a chief concern of many parts of private industry. This is not a new issue, but one that continues to hamper (in the eyes of respondents) their business. Lack of access to "validated" DoD scenarios both limits the credibility of some industry efforts and adds time and expense to projects where scenarios must be developed from scratch. This is particularly a concern for internal

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[78] The question (#14) did not ask respondents to rank the factors, only to assign their level of importance in their decision not to use classified scenarios. The ranking scheme is the result of combining aggregate responses and listing the factors in order of importance (from high to low) as judged by the respondents.

research and development projects that operate on limited budgets and timelines. There is some support for creating an unclassified scenario repository that would lend credence to efforts that use existing scenarios that otherwise are not as widely accepted.

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V. CONCLUSION

This assessment consisted of three primary sources of data: review of existing literature, an online survey of the national security community, and selected interviews of key stakeholders. Upon completion of these steps, the study team synthesized the results and derived the following major findings and recommendations regarding scenario use throughout the national security community.

A. MAJOR FINDINGS

Supported by the preceding analysis, several major findings emerged from the data.

1. Scenarios are important to most of the national security community.

Whether used inside or outside of the Department of Defense, scenarios are important to most of the national security community. An overwhelming majority of respondents indicated that scenarios were important to the functions their organizations perform. Over 90 percent indicated that both classified and unclassified scenarios were important. Of those, 61 percent reported that classified scenarios were "very important," while 39 percent reported the same for unclassified scenarios. The assessment shows that not only are scenarios important, but that they serve a wide variety of important functions, as illustrated earlier in this report (see figures 4-5 and 4-6).

2. Strong demand for unclassified scenarios exists.

Demand for unclassified scenarios is strong throughout the national security community. This is evidenced by the importance of unclassified scenarios described above and by the fact that a majority of questionnaire respondents (61 percent) said that they would use unclassified scenarios more if they were made more readily available. For example, one respondent noted that "unclassified scenarios would greatly help with developing unclassified joint and Special Operations concepts." Yet another respondent indicated that "unclassified scenarios are important to our work in that we need to engage Interagency and Multinational partners."

3. **Scenario development imposes significant recurring costs, but potential for major cost-savings exists.**

The study found significant recurring costs are associated with the development of both classified and unclassified scenarios. This finding is based on cost estimates provided by questionnaire respondents. They reported that, collectively, they spend an estimated $52.4 million annually on classified scenario development and $30.9 million on unclassified scenarios annually.[79] These expenditures were for staff-time required to develop scenarios anew or participate in scenario development processes. Several potential cost-saving alternatives are addressed in item 7, below.

4. **Several factors drive use of unclassified scenarios.**

No single factor explains why some organizations prefer unclassified scenarios to classified scenarios. Rather, a variety of reasons explain why large parts of the national security community utilize unclassified scenarios.

The leading reason for preferring unclassified to classified scenarios is the need to share information and collaborate with international and interagency partners (or others without necessary clearances).[80] Either the individuals involved or the facilities utilized frequently do not permit the use of classified materials. What is more, the audience is sufficiently diverse that NATO Secret or releasable scenarios were not judged to solve the problem.

Another leading reason for preferring unclassified to classified scenarios is the perceived "inflexibility of the content of classified scenarios." Whether the scenarios are inflexible or not is a subject of debate, but this point was shared by an overwhelming number of questionnaire respondents and interviewees alike. For example, one respondent said, "[T]ypically, classified scenarios do not meet all our needs for developing alternative concepts of operations for either red or blue."

A third factor limiting the use of classified scenarios is the challenge of controlling and handling classified scenarios during development and use. This is essentially a matter of convenience or costs associated with providing secure a workplace and necessary clearances.

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[79] Respondents were asked for either dollar or man-year estimates. Where man-years were provided, they were converted to dollars by assuming 1 man-year equaled $200,000.

[80] Based upon both questionnaire and interview data.

Fourth, many organizations lacked a compelling need to use classified scenarios. Although some organizations start by considering classified sources, other organizations can accomplish their task without them. Parts of the community that support senior decision-making begin with classified, "validated" scenarios given the nature of the decisions they support. However, other parts of the community involved with training and education or concept and development or experimentation do not share the same imperative.

A final important determinant of whether organizations use classified scenarios was the relative ease or difficulty in accessing them. However, the questionnaire results suggest that this is not a limiting factor. This could be due to achievements in recent years in making them more readily available through the DoD Analytic Agenda and attendant spaces (hosted by PA&E and Joint Staff(J8)).

5. Some commonality in scenario definition and form exists.

An overwhelming majority of questionnaire respondents (78 percent) agreed that their organization generally defines *scenario* as a "depiction of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission."[81] This level of agreement provides a possible basis for DoD to establish a common DoD-wide definition of scenario.

In addition, when asked about a series of scenario elements, a majority responded that the following were "very important" to their organization: *threat/challenge*, *concept of operations (operational level)*, *assumptions*, *blue objectives*, *forces data*, and *strategic concept*. The only scenario element that fewer than 50 percent of respondents judged as "very important" is the *context/road to war*. This commonality in key scenario elements further demonstrates general agreement throughout the community on the building blocks of scenarios.

6. Current classified scenario products (e.g., Defense Planning Scenario) appear to meet needs well, with some suggestions for enhancement.

Existing scenario products such as Defense Planning Scenarios and Multi-Service Force Deployment Documents appear to meet the needs of the community. When asked, a majority of respondents (64 percent) indicated that these products met the needs of their

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[81] Adapted from the definition of *Defense Planning Scenario*. See Defense Technical Information Center, http://www.dtic.mil/futurejointwarfare/dps.htm, 18 July. 2007.

organizations. For example, one organization was reported to "routinely use the DPS and read it." Interviews with the community suggested that classified products were found useful because they are collaborative, validated, and made widely available via shared repositories (e.g., Joint Data Support/J8 websites).

Those respondents who felt that classified products did not satisfy their needs tended to believe that the existing products are not comprehensive enough, not detailed enough, or not focused on long-term challenges. For example, one organization reportedly was "not aware of any classified scenarios 25 years into the future."

7.   Potential alternatives may better satisfy unclassified scenario needs.

Several alternatives to the status quo emerged throughout the first phase of the study. These alternatives came from a variety of sources (respondents, interviews, stakeholders, etc.). In short, these suggestions demonstrated that potential alternatives exist. Some of the leading alternatives offered by questionnaire respondents were to:

- Create a shared library/repository of unclassified scenarios (see appendix E)
- Draw upon multinational/allied scenarios
- Use preexisting scenarios
- Create a "composable" data sources/scenario generator[82]

Additionally, some of these alternatives present potential cost-saving opportunities. Respondents were asked to estimate annual cost savings to their organizations of three potential alternatives provided in the survey.[83] These options were estimated to save the community $7–10 million annually. Given that these respondents were only a sampling of the larger community, the actual cost savings are likely to be much greater. Figure 4-29, below, shows the total estimated savings for each option.

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[82]   Although "scenarios" were the focus of this study, future analysis could instead focus on "certified data" that could support the discrete scenario elements introduced in chapter IV.

[83]   Note that these three options were provided in the questionnaire, whereas the four alternatives listed above came out of the questionnaire as options offered by respondents.
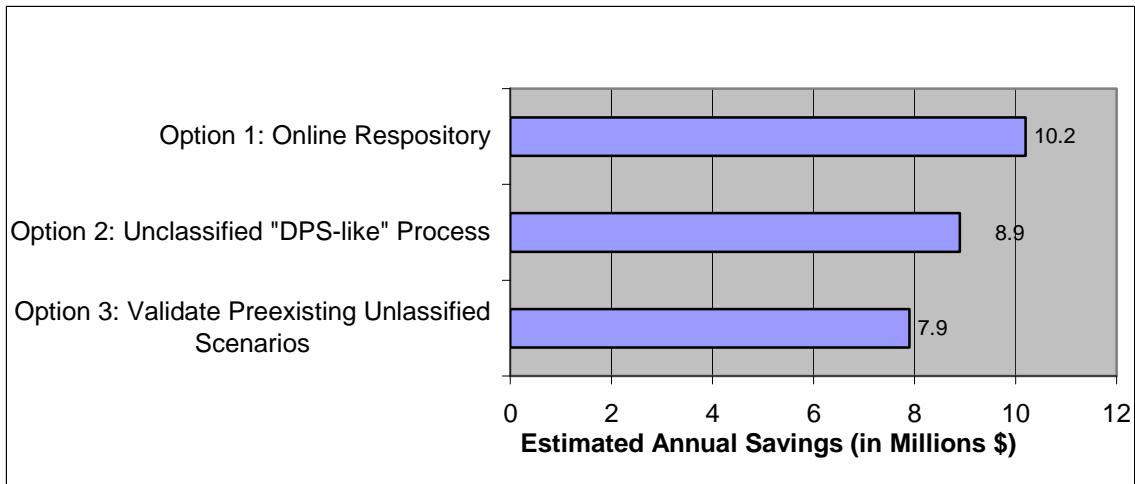
Figure 4-29. Estimated Annual Cost Savings for Proposed Unclassified Scenario Options

B.   RECOMMENDATIONS

Although the original charter of Phase One of this study was merely to examine the need for unclassified scenarios, several recommendations emerged from the analyses. This section discusses actions the Department could take to better address the demand for unclassified scenarios expressed in the first phase of this study.

1.   Incorporate a standard scenario definition and elements into the DoD dictionary and key instructions.

Given the broad agreement in general scenario and key elements, the Department should consider codifying a definition (such as the one used in this study) in the DoD dictionary and key instructions. Scenario users should work to promulgate it throughout the community.

The same should be done for key scenario elements. The elements should be defined and outlined in relevant instructions as the canonical "building blocks" for all scenarios. Once a common basis is provided, community members can further refine what they need from each of the scenario elements. For example, *forces data* can mean different things to different organizations but, once the data are recognized as a key scenario element, community members can define the amount of forces data required for their particular application.

2. **Take steps to increase community visibility of various unclassified scenario activities.**

Even if the Department does not adopt a more comprehensive solution to addressing the community's need for unclassified scenarios, it should take steps to increase community visibility of various unclassified scenario activities. This can be done by actively promoting reuse of known existing unclassified scenarios.

Visibility could also be increased by developing and promulgating a master list of known ongoing unclassified scenario activities.[84] The list could be maintained by an organization such as PA&E's Joint Data Support office but would have to be disseminated well beyond the analytic community by points of contact throughout the Department and interagency.

Another way to increase visibility and promote reuse is by stipulating that specific scenarios be used in the initial tasking of a study or activity. That is, if a relevant existing scenario is known to exist when a study or experiment is chartered, it should be specified in the original tasking and not left to the study lead to define.

3. **Further develop and evaluate options for satisfying identified unclassified scenario needs.**

Phase One identified not only a significant demand for unclassified scenarios, but also several potential alternatives for satisfying that demand. Examples range from creating a process analogous to the classified Defense Planning Scenarios to establishing a repository of unclassified scenarios for the rest of the community to reuse.

Identifying, categorizing, and evaluating the various alternatives should be the next step the Department takes to address the issue. Doing so systematically will ensure that all options are explored and that the community's interest has been considered during the evaluation. Indeed, such "evaluation of alternatives" will have to be conducted in concert with the scenario development and user community.

4. **If viable options exist, develop proof-of-principle demonstrations.**

Based upon the assessment of alternatives for satisfying the demand for unclassified scenarios, the Department should develop one (or more) of the options as a "proof-of-principle." Doing so provides an opportunity for the user community to

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[84] This would be something well short of creating an online repository suggested elsewhere in the study.

experiment with the option and provide feedback on its usefulness. If the option receives positive feedback or demonstrates some utility, then the Department could consider committing the resources to institutionalize the prototype and provide more direction on its use throughout DoD. This could be done similar to the way direction and governance is provided in DPS development and usage.

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Appendix A
INTERVIEW METHODOLOGY

The individuals, organizations, and key allies selected for structured interviews were identified by the sponsors, by other experts, and by IDA. The range varied among the participants who used *unclassified* scenarios, from the frequent and/or intensive users to others that might have made a decision to discontinue their use for any number of reasons. IDA laid out a plan to conduct structured interviews with as many of these users as feasible. Some were performed with individuals, others with groups, some through unclassified video teleconferencing, and still others by telephone or e-mail. A core set of nine interview questions, built from the key research questions cited below, were discussed with all interviewees.

A. KEY RESEARCH QUESTIONS

The key research questions in the first phase of this task focus chiefly on the demand for unclassified scenarios within and for DoD. Among these questions are the following: Which organizations use unclassified scenarios to support DoD? For what purposes do these organizations employ such scenarios? How important are such scenarios for these organizations? Why would these organizations use unclassified scenarios instead of classified scenarios? Do community members mean the same thing when they speak of scenarios? If some kinds of unclassified scenarios are made more readily available, at least as starting points, what should they look like? Do today's users of unclassified scenarios believe that any options for making such scenarios more available to them could save their organizations a significant amount of time or money?

B. INTERVIEW QUESTIONS

The final sponsor-approved version of the interview questions consisted of 9 substantive questions. On 28 September 2007, IDA conducted the first interview. Over the next several months IDA conducted 16 more interviews for a total of 17. Additionally, several participants e-mailed their responses into IDA.

C. OVERVIEW OF INTERVIEW RESPONDENTS

In order to make data analysis easy, IDA partitioned respondents' organizations into nine broad subdivisions: the Office of the Secretary for Defense (OSD), the Joint Staff, Unified Combatant Commands (COCOMs), the Services, international allies, interagency partners, service schools/academia, commercial industry, and "other," which included various organizations. The specific organizations interviewed were as follows:

- *Office of the Secretary of Defense:* Program Analysis and Evaluation (PA&E), Acquisition, Technology and Logistics (AT&L/AS&C), Personnel and Readiness (P&R/JAEC), Policy (Policy Planning).
- *Joint Staff:* J7, J8
- *Combatant Commands:* Joint Forces Command, Pacific Command
- *Industry:* Boeing, SimSummit
- *Interagency:* Department of State, Department of Homeland Security, Department of Energy, Department of Treasury
- *Allies:* Canadian Department of National Defence, Australian DoD, United Kingdom Ministry of Defence
- *Service Schools:* Army War College

D. COPY OF INTERVIEW QUESTIONS

In Phase I of the Open Scenario assessment the following questions were used to determine the breadth and depth of interest in unclassified scenario use.

1. Briefly describe how your organization utilizes scenarios in its activities.
2. What are the differences in scenario use, if any, for different types of activities?
3. What questions do you try to answer using scenarios?
4. Do you use classified or unclassified scenarios? Which are more valuable to your organization?
5. If both, what determines whether you use classified or unclassified scenarios? If one, why not the other?
6. Where do you go for classified scenario products and/or inputs? For unclassified?
7. If you use unclassified scenarios, how do you account for their limitations in accuracy?

8. Do the scenario products from the Analytic Agenda (DPSs, MSFDs, Analytic Baselines) address any of your organization's needs?

9. Approximately how much time and money does your organization devote to developing and acquiring scenarios (classified vs. unclassified)?

10. What option (s) would best satisfy your needs for unclassified scenarios?

- Would you value a central directory or repository of unclassified scenario products?

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Appendix B
QUESTIONNAIRE METHODOLOGY

The questionnaire design and distribution processes are briefly described in this appendix. Also included in this appendix is an overview of the questionnaire respondents.

A. QUESTIONNAIRE DESIGN

Initial discussions of unclassified scenarios with the study sponsors the Office of the Secretary for Defense, Program Analysis and Evaluation (OSD PA&E), the Office of the Secretary for Defense, Acquisition, Technology, and Logistics (OSD AT&L), the Joint Staff (J8) and experienced scenario developers and users affirmed to the Institute for Defense Analyses (IDA) that many different components of the Department of Defense (DoD) and the broader security community use unclassified scenarios in completing their organizations' tasks. Subsequently, IDA decided that a questionnaire was best suited to reach as many different organizations as possible because of the ease of its distribution and its conduciveness to receiving input from a large number of candidates in a central location.

The questionnaire was developed by IDA using the commercial website SurveyMonkey.com. Initial versions of the questionnaire were tested internally by an IDA team of experienced scenario users and survey methodologists over several iterations in order to develop a question-set that would help gain an appreciation of how scenarios, especially unclassified scenarios, are used throughout DoD and the broader national security community. At the conclusion of IDA's internal testing, the questionnaire was beta-tested at several project-briefings attended by study sponsors and other potential questionnaire candidates. Briefings where IDA conducted beta-tests of the questionnaire occurred at the offices of the Joint Assessment and Enabling Capability (JAEC) on 31 August 2007, Joint Forces Command (JFCOM) on 05 September 2007, OSD (PA&E) on 10 September 2007, the Analysis Modeling and Simulation Steering Committee Steering (which included representatives from all the project sponsors) on 12 September 2007, and the Joint Staff (J7) on 19 September 2007. Both the internal and beta-tests provided IDA with quality feedback that contributed to the development of the final sponsor-approved questionnaire.

The final sponsor-approved version of the questionnaire consisted of 21 substantive questions and 1 optional demographic question. Of the 21 substantive questions, 13 were multiple choice questions; 6 were fill-in-the-blank, and two were open-ended. In order to elicit maximum detail, of the 13 multiple choice questions 11 included an open-ended section for additional comments. For reference, a copy of the questionnaire in its format is included at the end of this appendix.

B.   QUESTIONNAIRE DISTRIBUTION

On 26 September 2007, the first round of questionnaires was distributed by OSD PA&E and the Joint Staff (J8) on IDA's behalf. OSD PA&E and the Joint Staff (J8) distributed the link to a copy of the questionnaire via email and provided candidates with a memo detailing the study and its background. Additionally, the memo encouraged candidates to forward the questionnaire link to relevant personnel at their discretion in an attempt to reach as many potential candidates as possible and requested that candidates complete the questionnaire by no later than 12 October 2007.

In order to encourage participation, after 2 weeks OSD PA&E and the Joint Staff (J8) issued a reminder email to candidates on 10 October 2007. The reminder reiterated to candidates the importance of participating in the questionnaire and highlighted the 12 October 2007 questionnaire end-date. Although 12 October 2007 was the requested end-date for receiving questionnaire responses, IDA continued to receive responses until 31 October 2007, when it officially shutdown the questionnaire.

C.   OVERVIEW OF QUESTIONNAIRE RESPONDENTS

The questionnaire was distributed by OSD (PA&E) and the Joint Staff (J8) to 219 known candidates in 73 different offices from 36 different organizations across DoD and the national security community.[85]   Of the 219 known questionnaire candidates 78 completed the survey, resulting in a 36 percent response rate.[86]   In order to make data analysis easy, IDA partitioned respondents' organizations into 9 broad subdivisions: the Office of the Secretary for Defense (OSD), the Joint Staff, Unified Combatant

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[85] The exact number of questionnaire candidates is unknown because candidates were encouraged by OSD (PA&E) and the Joint Staff (J8) to forward the questionnaire link to other relevant personnel.

[86] In order to determine an acceptable response rate, IDA compared its rate with rates found in other modeling and simulation (M&S) studies that used a similar online questionnaire methodology. In many instances IDA found that it either had a much higher response rate than other online questionnaires or had a much larger pool of potential candidates.

Commands (COCOMs), the Services, international allies, interagency partners, service schools/academia, commercial industry, and "other" (FFRDCs, defense agencies, etc.).

IDA received 22 responses from the Services, 16 from COCOMs, 10 from OSD, 8 from commercial industry, 7n from the Joint Staff, 5 from the service schools/academia, 4 from international allies and other organizations, and 2 from interagency partners. The breakdown of respondents according to subdivision can be viewed graphically in figure 4-1 located on page 20 of this report.

D.   COPY OF QUESTIONNAIRE

The questionnaire developed for and issued as part of this study appears on the following pages.

1. Scenario Study Questionnaire- UNCLASSIFIED

The purpose of this UNCLASSIFIED questionnaire is to gain an appreciation of how scenarios (especially UNCLASSIFIED scenarios) are used throughout the Department of Defense and the broader security community.

1. Within DoD, scenarios are generally defined as "depictions of a threat to international security, a corresponding mission for U.S. and allied capabilities, and a strategic concept for carrying out that mission" In the space below, please indicate whether your organization defines a scenario this way and, if not, how you define it.

◯ Yes, we define it about the same way

◯ No

If no, please provide your organization's definition and at what echelon (Department level, campaign level, tactical level, etc.) it applies:

2. What timeframe do most of the scenarios your organization work with fall into? Please use the text box below to provide any additional comments.

	Near-Term (0-4 years)	Mid-Term (5-9 years)	Long-Term (10+ years)
UNCLASSIFIED Scenario Timeframe	◯	◯	◯
CLASSIFIED Scenario Timeframe	◯	◯	◯

Additional Comments:

3. How important a role do scenarios (whether UNCLASSIFIED or CLASSIFIED) play in your organization's tasks?

Scenario Study Questionnaire

	Very Important	Important	Somewhat Important	Marginally Important	Not Important	N/A
Unclassified Scenarios	◯	◯	◯	◯	◯	◯
Classified Scenarios	◯	◯	◯	◯	◯	◯

4. Would you use UNCLASSIFIED scenarios more often if they were more readily available to your organization? Please use the text box below to provide any additional comments.

◯ Yes

◯ No

Additional Comments:

[text box]

5. Estimate what percentage of your organization's total time (not to exceed 100%) is devoted to the functions listed below (The "Others" that you identify below will also apply in questions 6-8):

Function	
Force Structure & Capability Mix Analysis	
Acquisition (Systems & Technology)	
Concept Development	
Experimentation	
War Gaming (Strategic, M&S, planning, etc.)	
Training/Education	
Testing	
Intelligence & Threat Assessment	
Operational Planning	
Other 1(Please specify function and percentage)	
Other 2	
Other 3	
Other 4	
Other 5	

6. Judge how important UNCLASSIFIED scenarios are for the functions that your organization performs:

	Very Important	Important	Somewhat Important	Marginally Important	Not Important	N/A
Force Structure & Capability Mix Analysis	○	○	○	○	○	○
Acquisition	○	○	○	○	○	○
Concept Development	○	○	○	○	○	○
Experimentation	○	○	○	○	○	○
War Gaming (Strategic, M&S, planning, etc.)	○	○	○	○	○	○
Training/Education	○	○	○	○	○	○
Testing	○	○	○	○	○	○
Intelligence & Threat Assessment	○	○	○	○	○	○
Operational Planning	○	○	○	○	○	○
Other 1 (Carry over "Other" as specified in question 5)	○	○	○	○	○	○
Other 2	○	○	○	○	○	○
Other 3	○	○	○	○	○	○
Other 4	○	○	○	○	○	○
Other 5	○	○	○	○	○	○

Additional Comments:

7. Judge how important CLASSIFIED scenarios are for the functions your organization performs:

	Very Important	Important	Somewhat Important	Marginally Important	Not Important	N/A
Force Structure & Capability Mix Analysis	○	○	○	○	○	○
Acquisition	○	○	○	○	○	○
Concept Development	○	○	○	○	○	○
Experimentation	○	○	○	○	○	○
War Gaming (Strategic, M&S, planning, etc.)	○	○	○	○	○	○
Training/Education	○	○	○	○	○	○
Testing	○	○	○	○	○	○
Intelligence & Threat Assessment	○	○	○	○	○	○
Operational Planning	○	○	○	○	○	○
Other 1 (Carry over "Other" as specified in	○	○	○	○	○	○

question 5)

	○	○	○	○	○	○
Other 2	○	○	○	○	○	○
Other 3	○	○	○	○	○	○
Other 4	○	○	○	○	○	○
Other 5	○	○	○	○	○	○

Additional Comments:

[text box]

8. Which CLASSIFIED scenario types does your organization typically use?

☐ Defense Planning Scenarios (DPS) produced by OSD Policy

☐ Multi-Service Force Deployment (MSFD) scenarios from the Joint Staff/J8

☐ Future Year Analytical Baselines (FYAB) from PA&E

☐ Current Year Analytical Baselines (CYAB) from the Joint Staff and COCOMs

☐ Others (Please list below)

Please specify others:

[text box]

9. Select from the list below the type of data you require for both U.S. and Non-U.S. forces in your scenarios. Select all that apply.

	U.S. Data	Non-U.S. Data	N/A
Unit Types	☐	☐	☐
Unit Names	☐	☐	☐
Unit Type Codes (UTC)	☐	☐	☐
Unit Identification Codes (UIC)	☐	☐	☐
Partial UTC and Descriptors	☐	☐	☐
Unit Equipment & Platforms	☐	☐	☐
Unit Personnel	☐	☐	☐
Geolocations for Unit Origin and Deployed	☐	☐	☐

	☐	☐	☐
Location			
Latitude/Longitude	☐	☐	☐
Parent Service	☐	☐	☐
Parent Unit	☐	☐	☐
Phase Used	☐	☐	☐
Required Delivery Date	☐	☐	☐

Additional Comments:

10. Please identify the MAIN source of U.S. and non-U.S. forces data for both CLASSIFIED and UNCLASSIFIED scenarios.

Source of U.S. force data for UNCLASSIFIED scenarios

Source of Non-U.S. force data for UNCLASSIFIED scenarios

Source of U.S. force data for CLASSIFIED scenarios

Source of Non-U.S. force data for CLASSIFIED scenarios

11. Provide the UNCLASSIFIED names of up to three UNCLASSIFIED scenarios (denote with (U)) and up to three CLASSIFIED scenarios (denote with (Z)) that your organization uses for the functions listed below:

Force Structure & Capability Mix Analysis

Acquisition

Concept Development

Experimentation

War Gaming (Strategic, M&S, planning, etc.)

Training/Education

Testing

Intelligence & Threat Assessment

Operational Planning	
Other 1 (Carry over "Other" as specified in question 5)	
Other 2	
Other 3	
Other 4	
Other 5	

12. Indicate how important each scenario component listed below is to your organization's activities. Also identify any other key scenario components and indicate their importance.

	Very Important	Important	Somewhat Important	Marginally Imporant	Not Important	N/A
Assumptions	◯	◯	◯	◯	◯	◯
Context/Road to War (Background and Timeline)	◯	◯	◯	◯	◯	◯
Threat/Challenge (Red)	◯	◯	◯	◯	◯	◯
Objectives (Blue)	◯	◯	◯	◯	◯	◯
Strategic Concept (Strategic-level)	◯	◯	◯	◯	◯	◯
Concept of Operations (Operational-level)	◯	◯	◯	◯	◯	◯
Forces Data	◯	◯	◯	◯	◯	◯
Other 1 (Please list component below)	◯	◯	◯	◯	◯	◯
Other 2	◯	◯	◯	◯	◯	◯
Other 3	◯	◯	◯	◯	◯	◯
Other 4	◯	◯	◯	◯	◯	◯
Other 5	◯	◯	◯	◯	◯	◯

For each "Other" ranked above (e.g. Other 1, Other 2, etc.) please provide the component's name in the text box below.

13. Do existing and forthcoming CLASSIFIED scenarios currently meet your

organization's needs?

◯ Yes, existing and forthcoming CLASSIFIED scenarios currently meet my organization's needs.

◯ No, existing and forthcoming CLASSIFIED scenarios do not currently meet my organization's needs.

2. Scenario Study Questionnaire - UNCLASSIFIED

The purpose of this UNCLASSIFIED questionnaire is to gain an appreciation of how scenarios (especially UNCLASSIFIED scenarios) are used throughout the Department of Defense and the broader security community.

14. Indicate how important the below factors are in your decision not to use CLASSIFIED scenarios. Add any additional factors influencing your decision and also indicate their importance level.
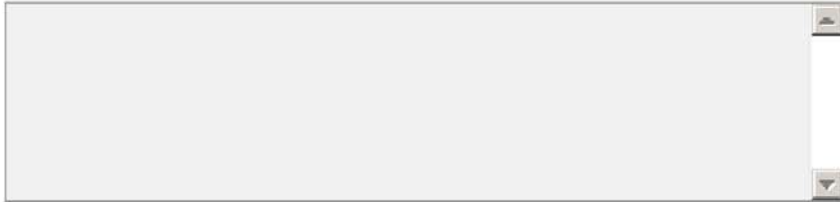
	Very Important	Important	Somewhat Important	Marginally Important	Not Important	N/A
Difficulty in sharing with foreign allies and US governmental and non-governmental partners	◯	◯	◯	◯	◯	◯
Challenges of control and handling of classified scenarios during development and use	◯	◯	◯	◯	◯	◯
Inflexibility of the content of classified scenarios (substance do not meet needs)	◯	◯	◯	◯	◯	◯
Difficulty in accessing classified scenarios and associated data	◯	◯	◯	◯	◯	◯
Other 1 (Please list factor below)	◯	◯	◯	◯	◯	◯
Other 2	◯	◯	◯	◯	◯	◯
Other 3	◯	◯	◯	◯	◯	◯
Other 4	◯	◯	◯	◯	◯	◯
Other 5	◯	◯	◯	◯	◯	◯

For each "Other" (e.g. Other 1, Other 2, etc.) please provide a factor name in the text box below.

3. Scenario Study Questionnaire - UNCLASSIFIED

The purpose of this UNCLASSIFIED questionnaire is to gain an appreciation of how scenarios (especially UNCLASSIFIED scenarios) are used throughout the Department of Defense and the broader security community.

15. If your organization currently uses UNCLASSIFIED scenarios instead of CLASSIFIED scenarios, why?

16. If your organization currently uses UNCLASSIFIED scenarios, how do you acquire them? Please explain why in the text box below.

☐ Develop them anew

☐ Modify existing UNCLASSIFIED scenarios

☐ Modify existing CLASSIFIED scenarios

☐ Acquire them from other sources

Explanation:
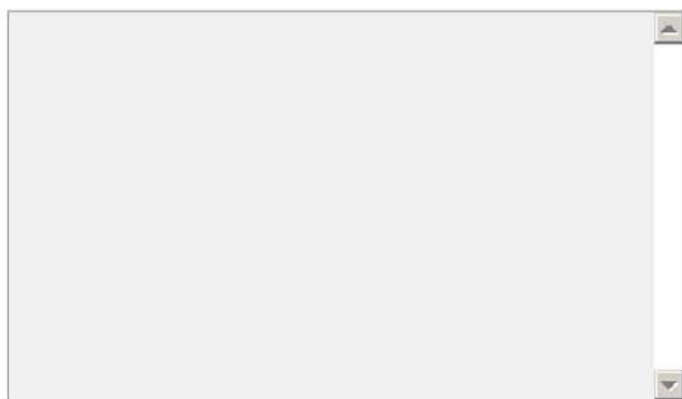
4. Scenario Study Questionnaire - UNCLASSIFIED

The purpose of this UNCLASSIFIED questionnaire is to gain an appreciation of how scenarios (especially UNCLASSIFIED scenarios) are used throughout the Department of Defense and the broader security community.

17. If your organization currently uses CLASSIFIED scenarios, how do you acquire them? Please explain why in the text box below.

☐ Develop them anew

☐ Modify existing UNCLASSIFIED scenarios

☐ Modify existing CLASSIFIED scenarios

☐ Acquire them from other sources

Explanation:

18. Provide a rough dollar estimate of how many resources (both government staff and contractors) your organization invests annually in developing or acquiring scenarios. (If dollar estimate is unavailable please provide estimate in approximate man-years.)

Estimate for CLASSIFIED Scenarios

Estimate for UNCLASSIFIED Scenarios

19. Listed below are three potential options for satisfying your organization's UNCLASSIFIED scenario needs. For each option, please provide a rough estimate of the percentage of your "estimate for UNCLASSIFIED scenarios" provided in Question #18 above that might be saved if the option is implemented.

Option 1: Create an online repository of UNCLASSIFIED scenarios

for all of DoD

Option 2: Develop a
parallel DoD-wide
UNCLASSIFIED scenario
development process
similar to the Defense
Planning Scenarios

Option 3: Designate a
set of preexisting
UNCLASSIFIED scenarios
as the official set for
joint, interagency, and
international use

20. Please list at least one additional option that may satisfy your organization's UNCLASSIFIED scenario needs. For each option, please provide description of the option you propose and provide a rough estimate of the percentage of your "estimate for UNCLASSIFIED scenarios" provided in question #18 above that might be saved if the option is implemented.

Option 1

Option 2

Option 3

Option 4

Option 5

21. Please provide any additional comments you may have concerning the need for UNCLASSIFIED scenarios within the DoD community:

22. Please provide your name and contact information (optional) and the name of your organization (required):

Name:

Organization:

Phone:

E-mail:

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Appendix C
PROTOTYPE SCENARIO REPOSITORY

In the first phase of the Open Scenario for Defense Planning Study, the IDA study team discussed with sponsors and stakeholders a variety of alternatives that could be used to meet the demand for unclassified scenarios and reduce recurring costs associated with unclassified scenario development. Among the alternatives discussed was an unclassified scenario repository that would be populated with preexisting scenarios and made searchable in order to encourage the reuse and sharing of scenarios. The repository option would thus meet the demand for unclassified scenarios and seek to reduce recurring costs that are associated with iterative unclassified scenario development processes. Because of the positive feedback the study team received from questionnaire respondents and interviewees in regard to the repository option, the team began to develop a proof-of-concept prototype that tests how such an option could be constructed. This appendix provides an overview of the methodology the study team used to construct the prototype, a copy of the prototype in its current stage of development, and an explanation of the study team's plan for its continued development in the subsequent phase(s) of the study.

A. METHODOLOGY

1. Building a Large-N Base of Unclassified Scenarios

Initial discussions and responses from stakeholders and questionnaire respondents regarding an unclassified scenario repository informed the IDA study team that a repository should be populated with a large-N of scenarios and subsequently made searchable by queries once each scenario is cataloged and assigned classifications according to its individual characteristics. In order to build a large-N base of scenarios, the team issued a cross-divisional, internal data-call asking IDA staff members to send the team any unclassified scenarios they use for their tasks or to direct team members to unclassified scenarios available in the open-literature. As a result of the data-call, the study team received or was directed to 200 unclassified scenarios. The team then compiled the scenarios in a central virtual-space so they could be cataloged.

2. Populating the Repository

After receiving and centralizing the collected scenarios, the IDA study team cataloged all 200 scenarios in a Microsoft Excel spreadsheet. The spreadsheet listed and numerically identified each scenario. With each scenario cataloged, the study team then needed to populate the prototype with relevant classifications in order to make it searchable by queries.

3. Fields and Values

In order for the repository to be searchable by queries, each scenario had to be classified in accordance with its individual characteristics. To identify which characteristics uniquely lend themselves to queries, the study team consulted IDA subject matter experts (SMEs) to survey which classifications, or fields, were best suited to make the prototype searchable. After deliberation, 13 fields (listed below) were identified and included in the prototype:

- Scenario Name (Scenario X)
- Scenario Abbreviation (e.g. X-2020)
- Scenario Purpose (e.g., to aid special operations forces counterinsurgency training)
- Date Published (e.g., 2007)
- Government Sponsor (e.g., U.S. Army)
- Developer (e.g., Army Training and Doctrine Center)
- Geographic Region (e.g., North America)
- Country (e.g., United States)
- Time frame (e.g., 2020)
- Intended User (e.g., U.S. Army special operations forces)
- Level of Detail (e.g., Medium)
- File Type (e.g., PDF)
- Military Operations Depicted (e.g., counterinsurgency)

Once the fields were identified, the study team then populated each field with a value for 200 scenarios. The final result is the spreadsheet depicted in Section 3 of this appendix.

B. FURTHER DEVELOPMENT OF THE PROTOTYPE UNLCASSIFIED SCENARIO REPOSITORY

In the subsequent phase(s) of the study, IDA will continue the advancement of the prototype by developing a list of sample queries that can be used to make the prototype searchable. To assist with the development of sample queries, the study team will continue to consult sponsors, stakeholders, and the aforementioned group of IDA SMEs. Furthermore, the prototype will continue to be populated with additional scenarios as the study team identifies and collects additional scenarios. Finally, the team will evaluate the prototype's effectiveness in meeting the demand for unclassified scenarios and its ability to reduce recurring costs associated with unclassified scenario development based on a set of to-be-determined evaluation criteria.

C. THE PROTOTYPE UNCLASSFIED SCENARIO SPREADSHEET

The following pages contain the prototype repository spreadsheet with 200 unclassified scenarios and values for 9 of the aforementioned 13 fields. The remaining fields—Abbreviation, Government Sponsor, Intended User, and File Type—were removed for formatting purposes.

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Project Horizon Progress Report (Summer 2006)	To explore ways to improve U.S. government interagency coordination in global affairs using the techniques of scenario based planning	2006	Interagency	Functional, not regional	None	2005-2025	Low	Multiple
Joint Operational Environment: The World Through 2030 and Beyond	To provide a famework for considering the future and determining the impact of the operational environment on joint force operations	2007	JFCOM	World	None	2007-2030	Medium	Multiple
Mapping the Global Future 2020	Examines how key global trends will develop into the future	2004	National Intelligence Council	World	None	2005-2020	Medium	None
Unified Quest 2006 Scenario	To determine where the Army needs to make institutional, conceptual, and experimental refinements to enhance our effectiveness for dealing with irregular challenges in complex environments	2006	Center for Strategic Leadership, Army War College and Lockheed Martin Center for Innovation	World	None	2017-2020	High	Multiple
the 10kt Scenario	Develop a baseline of U.S. government responsibilities to facilitate identification of gaps and overlaps relative to assignment of responsibility for executing and attaining the objectives of national strategy, with emphasis	2006	IDA	Homeland	United States	None	High	Homeland Security

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	on the four QDR focus areas and the six IPT #3 working group subject areas.							
Lagos JUO-CBA Road to Crisis	The purpose of this document is to provide information necessary for the various experimentation teams to develop experiments and workshops in support of the Capability Based Assessment (CBA) Process	2007	USJFCOM J9 / EDE	Africa	Nigeria	2007-2015	Medium	FID, COIN
National Planning Scenarios (Attack Timelines & Universal Adversary Group Profiles	For use in Federal, State, and Local homeland security preparedness activities	2006	Homeland Security Council	Homeland	United States	None	High	Homeland Security
Conflict Prevention - Crisis Containment	NATO Defense Requirements Reivew (DRR)	Unknown	George Mason University Peace Operations Policy Program/NATO	Nonspecific	None	None	Low	Nonconbatant evacuations, LOCs, use of force short of war
IMS Table Top -- Strategic Plan (off-the-shelf)	Demonstrate the value of Interagency Management System (IMS)	2007	State Dept.	Caribbean	Cuba	None	Low	stability, reconstruction
Conflict Prevention - Albania	NATO Defense Requirements Reivew (DRR)	2003	George Mason University Peace Operations Policy Program/NATO	Balkans	Albania	2003-2004	High	Nonconbatant evacuations, LOCs, use of force short of war

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Urban Resolve 2015	To support joint experimentation with JFCOM J9/JCD&E/JUO	2005	JFCOM/J9	Middle East	Iraq	2005-2015	High	Multiple
Space Power 2010	Tailored to address current deficiencies in U.S. military space power. The authors present technological, organizational, and doctrinal requirements, as well as contextual elements, for the Space Power 2010 vision.	1995	Students, Air Command and Staff College	Space	None	2010	Medium	Space, IT
SPACECAST 2020 (Volume 1)	To identify and conceptually develop high-leverage space technologies and systems that will best support the warfighter of the 21st century. (Note: Volume 2-4 are classified)	1994	Students and Faculty, Air University, U.S. Air Force	Space	None	2020	High	Space, IT
Biology and the Battlefield	Discusses the past and future role of biology in warfighting	2003	Robert Armstrong and Jerry Warner	Functional, not regional	None	21st century	Low	Multiple
Air Force 2025	Identify the concepts, capabilities and technologies the U.S. will require to remain the dominant air and space force in the 21st century.	1996	Air University	World	None	2025	High	Air Power
QDR Stability Operations: Interagency Roles & Responsibilities in a Generic	Reviews interagency roles and responsibilities for stability operations	2006	IDA	Functional, not regional	None	Present	Low	stability, reconstruction

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Scenario								
Joint Urban Operations	Operational-level description of how a joint force might conduct urban operations circa 2015-2027	2007	JFCOM	Functional, not regional	None	2015-2027	High	irregular warfare, urban operations
Persistent Intelligence, Surveillance, and Reconnaissance: Planning and Direction	Addressing the ISR shortfall through improved planning and direction of ISR assets in the 2014-2026 time frame	2007	JFCOM	Functional, not regional	None	2014-2026	Medium	Intelligence, Surveillance, and Reconnaissance
Joint Logisitics (Distribution)	Conceptual foundation for future capability development activities to support joint distribution operations envisioned to be conducted in the 2015-2025 time frame.	2006	JFCOM	Functional, not regional	None	2015-2025	High	joint deployment/rapid distribution and agile sustainment
Net-Centric Operational Environment	Focusing on the net-centric operational environment in 8-20 years with a focus on 2015	2005	JFCOM	Functional, not regional	None	2013-2025	High	Information sharing
Command and Control	Projects future conditions under which task performance can be assessed and identifies standards (with measures and criteria) for the level of task performance needed in 2010 and 2020 to implement the concept under the assumed conditions.	2005	JFCOM	Functional, not regional	None	2010-2020	High	Multiple

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Seabasing	Describes how Seabasing will complement, integrate and enable joint military capabilities throughout the littorals with minimal or no access to nearby land bases 10-20 years in the future.	38565	JFCOM	Functional, not regional	None	2015-2025	High	Seabasing
Global Strike	This paper describes a concept for conducting Global Strike operations during the "Seize the Initiative" phase of a major combat operation in 2015.	2005	JFCOM	Functional, not regional	None	2015-2025	High	Strikes on HVTs
Joint Forcible Entry Operations	Describes a concept for Joint Forcible Entry Operations in 2015	2004	JFCOM	Functional, not regional	None	2015	High	Forcible Entry
Irregular Warfare	Describes how future Joint Force Commanders could conduct protracted IW to accomplish national strategic objectives in a 2014-2026 time frame.	2007	JFCOM	Functional, not regional	None	2014-2026	High	Irregular warfare
Major Combat Operations	Describes, at the operational level, how the future joint force intends to conduct combat operations in support of National military objectives, and helps guide future joint force development by identifying the operational-level	2006	JFCOM	Functional, not regional	None	2014-2026	High	Major Combat Operations

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	objectives and essential capabilities required to successfully implement the concept 8-20 years in the future.							
Deterrence Operations	Describes how Joint Force Commanders will conduct deterrence operations through 2025	2006	JFCOM	Functional, not regional	None	2012-2025	High	Deterrence operations
Military Support to Stabilization, Security, Transition, and Reconstruction Operations	describe how the future Joint Force Commander (JFC) will provide military support to stabilization, security, transition, and reconstruction operations within a military campaign in pursuit of national strategic objectives in the 2014-2026 time frame.	2006	JFCOM	Functional, not regional	None	2014-2026	High	Stabilization, Security, Transition, and Reconstruction Operations
Homeland Security	Describes how the Joint Force will plan, prepare, deploy, employ, and sustain the force in the 2015 time frame to detect, deter, prevent, and defeat attacks against the Homeland, provide military forces in support of civilian authority, and plan for emergencies.	2004	Strategy Division (J5S), NORTHCOM	Functional, not regional	None	2015-2024	High	Homeland security
Capstone Concept for Joint Operations	Describe how joint forces are expected to operate across the range of military operations in 2012-2025.	2005	JFCOM	Functional, not regional	None	2012-2025	High	Multiple

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Net-Centric Environment	describing how joint forces might function in a fully networked environment 10 to 20 years in the future.	2005	JFCOM	Functional, not regional	None	2015-2025	High	Multiple
Force Management	The Force Management Joint Functional Concept provides a high level description of the set of integrated policies, processes, and tools that might be required if the force manager is to function at peak efficiency and effectiveness 15 to 20 years in the future.	2005	JFCOM	Functional, not regional	None	2020-2025	High	Multiple
Functional Concepts for Battlespace Awareness	Overarching concept paper that describes how the joint force is envisioned to operate in the next 15-20 years	2003	JFCOM	Functional, not regional	None	2012-2023	High	Multiple
Focused Logistics	Integrated approach for transforming Department of Defense logistics capabilities and for dramatically improving the quality of logistics support (2015 time frame).	2003	JFCOM	Functional, not regional	None	2015-2023	High	Multiple
Force Application	This concept concentrates on those capabilities required to effectively apply force against large-scale enemy forces in the 2015 time frame.	2004	JFCOM	Functional, not regional	None	2015	Low	Major Combat Operations

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Joint Command and Control	The Joint Command and Control Functional Concept describes a vision of how Joint Command and Control (C2) will be executed in 2015 in support of the Joint Force Commander.	2004	JFCOM	Functional, not regional	None	2015	Low	All
Protection	Provides the basis for future military experiments and exercises to enhance protection operations conducted by the Joint Force.	2004	JFCOM	Functional, not regional	None	2020-2025	Low	Major Combat Operations, Homeland Security, Strategic Deterrence, Stability Operations,
All Possible Wars? Toward a Consensus View of the Future Security Environment 2001-2025	Aims to frame issues, develop options, and provide insights for the Chairman of the JCS, the services, and the next administration in three areas: defense strategy, criteria for sizing conventional forces, and force structure for 2005–2010. One of the group's initial tasks was to assess the future security environment to the year 2025.	2000	NDU	World View	None	2025	Low	None -- Grand Strategy
The World of 2020 and Alternative Futures	Identifies and conceptually developes high-leverage space technologiesand systems that will best support the	1992	Chief of Staff of the Air Force	Space	None	2020	Low	Space Operations

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	warfighter in the 21st century							
The Economic Impacts of a Terrorist Attack on the U.S. Commercial Aviation System	This article summarizes our work on estimating the economic impacts of a hypothetical terrorist attack on the U.S. commercial air transport system.	2007	Risk Analysis Journal	North America	United States	None	Medium	Homeland Security
Business Interruption Impacts of a Terrorist Attack on the Electric Power System of Los Angeles	This article estimates the direct and indirect economic impacts of an extended electric power outage caused by a terrorist attack in a major U.S. city—Los Angeles, California.	2007	Risk Analysis Journal	North America	United States	None	Medium	Homeland Security
A Risk and Economic Analysis of Dirty Bomb Attacks on the Port of LA & Long Beach	This article analyzes possible terrorist attacks on the ports of Los Angeles and Long Beach using a radiological dispersal device (RDD, also known as a "dirty bomb") to shut down port operations and cause substantial economic and psychological impacts. The analysis is an exploratory investigation of a combination of several risk analysis tools, including scenario generation and pruning, project risk analysis,	2007	Risk Analysis Journal	North America	United States	None	Medium	Homeland Security

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	direct consequence modeling, and indirect economic impact assessment.							
Alternative Futures AD 2000-2025: Of the many potential scenarios, global governance looks the most fruitful	An assesment of six conceivable futures	2000	Walter C. Clemons, Jr.	World View	None	2025	Low	None
Global Trends 2015: A Dialogue About the Future with Nongovernment Experts	Examines the world from 2000-2015 from the perspective of a national security policymaker	2000	National Intelligence Council	World View	None	2015	Medium	None
Alternative Futures in War and Conflict: Implications for U.S. National Security in the Next Century	Using the NIC's Global Trends 2015, this report explores the potential role of the United States and its military forces in 2015. It develops the military aspects of the NIC scenarios and explore the implications of these scenarios for U.S. national strategy.	2000	Peter Dombrowski, Center for Naval Warfare Studies, Strategic Research Department	World View	None	2015	Low	Multiple
A global status report: January 1, 2050	One view of how the world could look in the year 2050	1999	Jerome Glenn and Theodore Gordon	World View	None	2050	Low	None -- Science and Technology Development

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Future S&T Managemetn Policy Issues - 2025 Global Scenarios	This article presents four scenarios depicting science and technology (S&T) management dilemmas of the next two decades.	2004	American Council for United Nations University	World View	None	2025	Medium	None -- Science and Technology Management
Which World? Scenarios for the 21st Century: Global Destinies, Regional Choices	The author identifies three possible outcomes from late-1990s trends, and analyzes the prospects for each of the world's regions. The scenarios are "Market World", "Fortress World" and "Transformed World".	1998	Allen Hammond	World View	None	None	Medium	None
Which World? Three Global Scenarios: Choose the World We Want	The author identifies three possible outcomes from late-1990s trends, and analyzes the prospects for each of the world's regions. The scenarios are "Market World", "Fortress World" and "Transformed World".	1999	Allen Hammond - *The Futurist*	World View	None	2050	Low	None
Two Scenarios for 21st Century Organizations: Shifty Networks of Small Firms or All-Encompassing "Viritual Countries"?	considered a wide variety of possible driving forces, major uncertainties, and logics that might shape 21st century organizations	1997	Robert Laubacher, Thomas Malone, and the MIT Scenario Working Group	World View	None	2015	Low	None

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
The Conflict Environment of 2016: A Scenario-Based Approach	What kind of military will the United States require in 2016?		Center for Strategic and Budgetary Analysis	Asia, Europe	Iran, Taiwan-China, Indonesia, Ukraine	2016	Medium	Major and Regional Combat Ops
Which Army After Next? The Strategic Implications of Alternative Futures	While it is impossible to predict the nature of the future security environment with certainty, it is possible to sketch an array of feasible alternatives and begin to explore the implications each might hold for American landpower and the U.S. Army.	1997	Steven Metz	World View	None	2020	Low	None--Examines global system
International Study on Counterterrorism	Nine anti-terrorist scenarios rated for apparent plausibility, effectiveness in eliminating terrorism if implemented, and lack of downside potential.	NA	Millenium Project	World View	United States	none	Medium	Counterterrorism
Global Exploratory Scenarios	Discusses the use of models in exploratory scenarios	NA	Millenium Project	World View	None	none	Medium	None--Discussion of scenario methodology

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Opportunities in Biotechnology for Future Army Applications	Examine the basis of new technologies and the probabilities that they could have a future impact on Army capabilities	2001	Committee on Opportunities in Biotechnology for Future Army Applications, Board on Army Science and Technology, Division on Engineering and Physical Sciences, National Research Council.	North America	United States	2025	Medium	None
Threats and Challenges to Maritime Security 2020	Overview of the maritime security environment for the next twenty years, focusing on overarching forces that will shape maritime security as well as the actual activities which occur in that environment.	1999	Office of Naval Intelligence and the U.S. Coast Guard Intelligence Coordination Center	World View	None	2020	Medium	None--maritime activities
Alternative Futures and Army Force Planning: Implications for the Future Force Era.	Creating six alternative future worlds for the 2025 time frame and drawing out the implications of those worlds for Army force size, structure, and design.	2005	RAND	World View	None	2025	High	Multiple

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Joint Operations Superiority in the 21st Century	Support for the Defense Science Board assessing several different Joint force concepts that could be applied to resolve a notional high-intensity, quickreaction scenario around the 2010–2015 time period.	1998	RAND	Functional, not regional	None	2010-2015	Medium	Multiple
An Abrupt Climate Change Scenario and Its Implications for United States National Security	The purpose of this report is to imagine the unthinkable - a plausible, although not most likely, extreme climate change scenario – to push the boundaries of current research on climate change so we may better understand the potential implications on United States national security.	2003	Peter Schwartz and Doug Randall	World View	None	None	Medium	None--Climate Change
Geopolitics: The Next Wave	Key forces, dilemmas and uncertainties to illustrate through scenarios how current developments are expected to develop in the medium / long term future	2004	Shell International and The Challenge Network	World View	None	2030	Low	None
Shell Global Scenarios to 2025	Help charter routes at three levels - long term trends, uncertainties and froces; specific features at key regions; and market-level trends and turbulences	2005	Shell International	World View	None	2025	Medium	None

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Scenarios to 2030	Gives several scenarios for 2030 and a methodology	2006	The Challenge Network	World View	None	2030	Medium	None
SOF Vision 2020	Long-range strategy for SOF missions, force structure, equipment, and capabilities into and beyond 2020.	1997	SOCOM	World View	None	2020	Low	Special Operations
CRN Global Warming	Examines global warming in the future	2007	Center for Responsible Nanotechnology	World View	None	2025	Low	None
CRN Secret Military Development	Examines on way in which molecular manufacturing could appear in the context of secret military development	2007	Center for Responsible Nanotechnology	World View	United States	2022	Low	None
CRN Positive Expectations	Examines a world where the U.S. is not the leader in nanotech. Development	2007	Center for Responsible Nanotechnology	World View	United States	2018	Low	None
CRN Negative Drivers to Produce MM by 2020	Negative drivers produce a deadly disease by 2020	2007	Center for Responsible Nanotechnology	World View	United States	2020	Low	None
CRN Molecular Manufacturing	Examines molecular manufacturing in the future	2007	Center for Responsible Nanotechnology	World View	United States	2022	Low	None

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
CRN Water Shortage	Examines the role of nanotechnology in a water shortage	2007	Center for Responsible Nanotechnology	World View	Malaysia & Singapore	2020	Low	None
7 Revolutions: Population	Examines population trends into the year 2025	2007	CSIS	World View	None	2025	Low	None
7 Revolutions: Resource Management	Examines the problems of resource management in the year 2025	2007	CSIS	World View	None	2025	Low	None
7 Revolutions: Technology	Examines a variety of technological trends into the year 2025	2007	CSIS	World View	None	2025	Low	None
7 Revolutions: Information	Examines the difficulties of information management into the year 2025	2007	CSIS	World View	None	2025	Low	None
7 Revolutions: Economic Integration	Examines economic integration into the year 2025	2007	CSIS	World View	None	2025	Low	None
7 Revolutions: Conflict	Examines conflict in the year 2025	2007	CSIS	World View	United States	2025	Low	None
7 Revolutions: Governance	Examines global civil society and governance into the year 2025	2007	CSIS	World View	None	2025	Low	None
NATO Casualty Estimation Scenarios: Nuclear	Estimate the numbers and types of patients resulting from the military use of nuclear weapons	2004	IDA	None	None	None	High	Tactical WMD use
NATO Casualty Estimation Scenarios: Chemical	Estimate the numbers and types of patients resulting from the military use of chemical weapons	2004	IDA	None	None	None	High	Tactical WMD use

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
NATO Casualty Estimation Scenarios: Biological	Estimate the numbers and types of patients resulting from the military use of biological weapons	2004	IDA	None	None	None	High	Tactical WMD use
J9 Futures Group: Demographics	Explores world population growth rates	2007	J9	World View	None	2050	Medium	None
J9 Futures Group: West Africa	Initiates a series of regional reports on countries and regionswithin an "arc of instability" that may challenge U.S. security in the future	2007	J9	West Africa	Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Congo (Brazzaville), Côte d'Ivoire, Equatorial Guinea, Gabon, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, and Togo	None	Medium	None

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Border Incident	Examine section and responses to cross-border incursion in context to crisis management	1999	IDA	Balkans	Albania	1999	High	
Medical (Contagion)	Uses threatening situation to explore preparation, planning and response to a potential epidemic	1999	IDA	Balkans	Albania	1999	High	
Embassy Takeover	Presents a hypothetical case study of a terrorist act requiring careful and effective response	1999	IDA	Balkans	Albania	1999	High Time sequenced	
Banking disruptive financial collapse	Presents a case where economic factors threaten national security	1999	IDA	Balkans	Albania	1999	High	
Fundamentalist	To examine measures to measure and deal with politically respired religious fundamentalist threats to an emerging democracy	1999	IDA	Balkans	Albania	1999	High	
Refugees	Presents the possible adverse impacts of a large uncontrollable flow of economic trans border refugees	1999	IDA	Balkans	Albania	1999	High	
Human Rights	Highlights the import of inter-national expectations and norms related to human rights and focus on measures internally to cope	1999	IDA	Balkans	Albania	1999	High	
Riots	To illustrate how to cope and deal with threat to	1999	IDA	Balkans	Albania	1999	High	

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	public order							
Nuclear Materials	Examine how best to cooperate on a regional basis with the danger in the illegal sale of fissionable mater	1999	IDA	Balkans	Albania	1999	High	
NGO Relationship	Show the means and methods of dealing with NGOs during internal crisis	1999	IDA	Balkans	Albania	1999	High	
NGO Protection	Explores the complexities and responsibilities involved in the dealing with NGOs	1999	IDA	Balkans	Albania	1999	High	
Rogue Nuclear Scientists	Traces attempts to deal with rogue Russian scientists being offered employ fby near east power clandestinely	1999	IDA	Balkans	Bulgaria	1999	High	
Ebola Disease Alert	Examine the means and approach in dealing with transit travelers suspected of carrying a deadly infection	1999	IDA	Balkans	Bulgaria	1999	High	
NATO Access to troubled area	Examine the means and approach in dealing with NATO access to a troubled area	1999	IDA	Balkans	Bulgaria	1999	High	
	Explore factors involved in Bulgaria dealing with a NATO request for logistic access in support an expected conflict in the Middle East	1999	IDA	Balkans Near East	Bulgaria	1999	High	

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Labor Unrest	Presents the complexity of a developing nation dealing with internal demands and external expectations at the	1999	IDA	Balkans	Bulgaria	1999	High	
Nuclear Power Plant	Shows the difficulties in dealing with public perceptions related to possible nuclear dangers	1999	IDA	Balkans	Bulgaria	1999	High	
Oil Spill	Explores the effects necessary to contain the damage of a possible oil spill in the Black Sea	1999	IDA	Balkans	Bulgaria	1999	High	
Illegal Immigration	To illustrate the variety of reactions available to responding to a major illegal alien flow	1999	IDA	Balkans	Bulgaria	1999	High	
Air High-Jacking	A real time multiple drop scenario geared toward developing the best responses possible to fast moving crisis	1999	IDA	Balkans	Bulgaria	1999	High	
Minorities Human Rights	To illustrate the complexity both internally and externally in dealing with allegations of real or perceived threats to a minority po[ulaceROM (Gypsies)	1999	IDA	Balkans	Bulgaria	1999	High	
Banking Money Laundering	Explores the potential fall-out in failing to respond effectively to money laundering in national banks	1999	IDA	Balkans	Bulgaria	1999	High	

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Border Incident	Examines the various potential response to the border incursions by the policy of a friendly neighoring country	1999	IDA	Balkans	Bulgaria	1999	High	
Illegal Arms Sales	Follows police and security officials path in resolving an arms smuggling ring supply of weapons to terrorist	1999	IDA	Balkans	Bulgaria	1999	High	
Trans Border invasion in Baltic's	Presents a hypothetical case of military invasion in the Baltic's to preserve the integrity of Kaliningrad	1996	IDA	Baltic	Baltic	1996	High	
Nuclear Plant Crisis	Explores resources and reaction to the threat of a nuclear plant failure in Lithuania	1996	IDA	Baltic	Baltic	1996	High	
Minority Problem in Baltic	Examines means of dealing with Russian minority populace in Baltic States	1996	IDA	Baltic	Baltic	1996	High	
Refugees Influx	Deals with an unexpected large low of refugees into the Baltic States	1996	IDA	Baltic	Baltic	1996	High	
Baltic Crime Problems	Captures a scene where organized crime scene threatens national progress	1996	IDA	Baltic	Baltic	1996	High	
Travel and Tourism Scenario	Depicts a Super SARS outbreak in U.S. and Europe coinciding with upcoming three critical economic conferences	2003	IDA	Eastern Europe / Central Asia	None	Present	High	Regional Approaches/Co operation in Combatting Transnational

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	indended to help the Central Eurasian region. Participants must decide the best course of action in light of recent travel restirctions.							Extremist Groups
Air Traffic Cyber Attack Eloquent Nugget	Depicts a cyber attack on the world's air traffic control systems with an emphasis on control of aircraft transitioning between Europe and Asia. Participants must decide how to address the situation.	2003	IDA	Eastern Europe / Central Asia	None	Present	High	Regional Approaches/Co operation in Combatting Transnational Extremist Groups
Anthrax Scenario	Depicts an Al-qaida anthrax attack on aircraft at 7 airports in Eurasia. Participants must decide how to deal with contaminated airports, aircraft, and infected travelers as well as determine how to respond to the attack itself.	2003	IDA	Eastern Europe / Central Asia	None	Present	High	Regional Approaches/Co operation in Combatting Transnational Extremist Groups
Nuclear Facility Sabotage Threat	Depicts an uncovered conspiracy to sabotage Soviet built nuclear power facilities by eco-terrorists. The participants must decide how to address the threat in their region.	2002	IDA	Caucasus/Cen tral Asia	GUUAM Nations	Present	High	Regional stability through cooperation in crisis mitigation and management
WMD Sales	Depicts reports of south Asian nationals attempting to sell nuclear devices. Particpants must	2002	IDA	Caucasus/Cen tral Asia	GUUAM Nations	Present	High	Regional stability through cooperation in crisis mitigation

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	decide how to respond to the report and later information.							and management
Air Traffic Cyber Attack GUUAM	Depicts a cyber attacks on the European air traffic control systems. The perpetrators announce their intention to stop all polluting air traffic and then attack the banking system. Participants must decide how to address the situation within the GUUAM regional perspective.	2002	IDA	Caucasus/Central Asia	GUUAM Nations	Present	High	Regional stability through cooperation in crisis mitigation and management
Ebola Istanbul	Depicts the discovery of Ebola infected person intent on spreading the disease through human contact in Istanbul and abroad. Several are missing and believed to be traveling to other musical venues throughout the GUUAM region and Europe. Particpants must decide how they will work together to address the potential threat to their region.	2002	IDA	Caucasus/Central Asia	GUUAM Nations	Present	High	Regional stability through cooperation in crisis mitigation and management

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Economy/Banking	Depicts reports of potential hostile takeovers of domestic banks by foreign organized crime rings during an economic crisis in Russia that is reaching into Europe. The participants must decide what information the Prime Minister needs when considering his comments on the subject in a national press conference.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Drug Trafficking	Depicts Hungary as the new transit point for drug trafficking to Norther and Central Europe at the time of EU accession. Internal investigations implicate Hungarian officials in the trafficking increase. How should Hungary respond to the growing concern and information of official involvement?	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Cruise Ship Hijacking by Hungarians	Depicts a German cruise ship hijacked out of Budapest enroute to Bratislava by a previously unknown Hungarian terrorist organization making demands and threatening to blow up the ship. Participants must decide how to respond to	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	the scenario.							
Debrizine Water Contamination	Depicts a faulty water treatment system that allows key bacteria into the drinking water. There have been some cases of people getting sick. The government is pushing for a delay of the public health announcement until repairs or deals are made; public health officials call for an immediate announcement to save the young and elderly. Participants must determine the appropriate action.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Balkans Unrest	Depicts Albanian groups in Macedonia threatening to expand hostilities into the rest of the Balkans with Serbia threatening intervention in Macedonia, Turkey threatening to intervene if Serbia intervenes, and Greece threatening to intervene to prevent Turkish intervention. Participants must decide how respond to U.S./NATO requests to station forces in Hungary	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	to respond to potential threats and how Hungary can address the crisis directly.							
Ukrainian Police	Depicts an incursion into Hungary by Ukrainian police pursuing drug traffickers. Hungarian border services engage and kill one Ukrainian and capture others. Some escape back into Ukraine with prisioners and Hungarian residents. Particpants must brief the Prime Minister on the situation and possible actions to take.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Embassy Takeover	Kurdish nationalists take over the Turkish Embassy making demands and threatening to kill diplomats. Police are in position and urging swift action. Participants must decide which course of action to pursue.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Nuclear Plant Explosion Threat	Depicts a Slovakian nuclear powerplant is on the verge of exploding. The Slovak government is reporting minor problems, but Slovak and Hungarian refugees are already a huge problem. Participants must decide a course of action.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Oil Spill on Danube	Depicts a hit and run barge collission with a bridge that has created a signficant oil spill. Participants must prepare a course of action and prepare for a news conference.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Roma Protests	Depicts the Pope's upcoming visit as a venue for the Rom to protest their status. Concerns about the protests are growing. Participants must develop options for a security meeting in 45 minutes.	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention
Ebola Budapest	Depicts a potential Ebola outbreak is discovered among illegal affrican aliens. Some are not accounted for. A tabloid is planning to break a sensational story the next day. Participants must provide the Prime	1999	IDA	Eastern Europe	Hungary	Present	High	Crisis Management, Conflict Resolution and Prevention

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	Ministrer with options.							
Balkan Winter	Depicts the worse Balkan winter in 100 years with low energy supplies, dying livestock, and 2500 human fatalities. External aid is limited. Participants must decide a course of action to cope with conditions and a restive public.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management
Turkish Air Hijacking	Depicts a Turkish airline hijacking. The hijackers are making demands and threatening to kill passengers. Participants must plan a course of action to respond to the incident.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management
Vienna Ebola	Depicts African musicians performing in Vienna succombing to a tropical disease, but not before many leave for Budapest. The disease is potentially Ebola. Participants must determine a plan of action to respond to the potential crisis.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Illegal Immigrant Flow 2002	Depicts growing illiegal immigration problems for aspiring EU members coming to a head. Participants must plan for immigration-related protests.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management
War Criminal Refugees 2002	Depicts Serbian war criminals hold up in the Belarus Embassy in Sofia. The IWTC demands they be sent to The Hague for trial; Russia offers to take them stating that it would be unacceptable to send them to The Hague , Belarus asks for safe passage to Belarus; Serbia wants them back. There are other Serb war criminals in Serbia waiting to see what will happen. Participants must create a position on the issue.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management
Pan Roma Protests	Depicts the Roma people making demands for equal rights and reparations from the Danube basin countries and plans to make a speactacle of upcoming economic conferences in the region. Participants must decide how to deal with the issue.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Danube Hijacking	Depicts a Swiss cruise line hijacking by terrorist making demands and threatening to kill passengers. Cell phone communication with some passengers provides useful information. A Hungarian assault team is prepared to board the ship as it passes under the Chain Bridge. Participants must weigh the options and determine a course of action.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management
Drug Highway	Depicts an increase in drug related violence as the trafficking through the Danube basin grows. European and American demands are mounting. The EU has witheld any accessions until the problem is under control. Participants must plan a course of action to address the drug trafficking and violence problems in the region.	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management
Flood of 2002	Depicts the worst Danube flooding in 100 years. Recommended solutions to the problem include a multi-billion dollar projects to canalize the Danube potentially flooding other	2001	IDA	Eastern Europe	Hungary	Present	High	Crisis Management

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	areas. Participants must determine the best course of action to respond to the immediate needs of the region as well as the future needs.							
Aircraft Containing a Deadly Chemical Threatens Parade	Presents decision-makers with a regional crisis for which they must analyze various possible measures to enhance tripartite collaboration in dealing with disaster, particularly centered on the military's role and capabilities in support of overall national objectives	2007	IDA	Asia	Japan, South Korea	Present	High	Regional Cooperation, Homeland Defense, Civil Support
Avian Flu Pandemic	Presents decision-makers with a potential Avian Flu pandemic for which they must analyze various possible measures to enhance tripartite collaboration in dealing with disaster, particularly centered on the military's role and capabilities in support of overall national objectives	2007	IDA	Asia	Japan, South Korea	Present	High	Regional Cooperation, Homeland Defense, Civil Support
Chain of Disasters	Presents decision-makers with a chain of regional crises for which they must analyze various possible measures to enhance tripartite collaboration in	2007	IDA	Asia	Japan, South Korea	Present	High	Regional Cooperation, Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	dealing with disaster, particularly centered on the military's role and capabilities in support of overall national objectives							
LPG Attack	Presents decision-makers with a Liquid Petroleum Gas tanker explosion for which they must analyze various possible measures to enhance tripartite collaboration in dealing with disaster, particularly centered on the military's role and capabilities in support of overall national objectives	2007	IDA	Asia	Japan, South Korea	Present	High	Regional Cooperation, Homeland Defense, Civil Support
Pirates Threatening to Detonate Hijacked Oil Rig Near a Nuclear Power Plant	Presents decision-makers with a hijacked oil rig crisis for which they must analyze various possible measures to enhance tripartite collaboration in dealing with disaster, particularly centered on the military's role and capabilities in support of overall national objectives	2007	IDA	Asia	Japan, South Korea	Present	High	Regional Cooperation, Homeland Defense, Civil Support
SARS Threat to Major International Conference	Presents decision-makers with a potential SARS outbreak for which they must analyze various possible measures to enhance tripartite collaboration in dealing	2007	IDA	Asia	Japan, South Korea	Present	High	Regional Cooperation, Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	with disaster, particularly centered on the military's role and capabilities in support of overall national objectives							
Biological Accident	Presents local decision-makers with a biological outbreak for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise. Specific objectives to: keep an incident from becoming a problem; getting external resources; and expedited procedures.	1997	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support
Aircraft Hijacking	Presents local decision-makers with an aircraft hijacking scenario for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the	1997	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	response to, management of, and prevention of crise.							
Civil War in a Neighboring Country	Presents local decision-makers with a civil war in a neighboring country for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise. Specific objectives to: keep options open; establishing external relations; and avoiding becoming involved	1998	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support
Energy Emergency	Presents local decision-makers with an energy emergency for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and	1999	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	coordination in the response to, management of, and prevention of crise.							
Failing Water System	Presents local decision-makers with a failing water system for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise.	2000	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support
Embassy Takover by Terrorists	Presents local decision-makers with an embassy takeover by terrorists for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise. Specific objectives to: work a fast developing situation; stress existing relationships and	2001	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	procedures both internal and external; deal with good and bad information.							
National Identity: Language Requirement for Citizenship	Presents local decision-makers with national identify crisis whereby a language requirement is imposed for citizenship, forcing decision-makers to analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise.	2002	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support
Nuclear Power Plant Shut Down	Presents local decision-makers with a failing nuclear power plant affecting neighbors. Forces decision-makers to analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise, specifically	2003	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	understanding events and actions in response to those events, in the context of a free (and global) press							
Organized Crime	Presents local decision-makers with challenges posed by organized crime, for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the response to, management of, and prevention of crise.	2004	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support
Refugees in the Baltics	Presents local decision-makers with a potential refugee influx for which they must analyze national crisis management and response concepts, stressing the importance of national inter-agency, regional and international cooperation and coordination in the	2004	IDA	Eastern Europe	Latvia	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	response to, management of, and prevention of crise. Specific objectives to: recognize dual nature of problems (longer-term problem not a crisis); strategies to get outside help; dealing with a crisis with few immediate options.							
	Prepares homeland security decision-makers for a crisis involving several catastrophic scenarios including a fuel tank explosion, bridge collapse, and anthrax in Washington D.C.	2002	IDA	Washington D.C.	U.S.	Present	High	Combatting Terrorism, Homeland Defense, Civil Support
Multi-phased Terrorist Attack	Several short scenarios inteneded to provide assistance in the refinemenet of existing defense planning and managements systems	1997	IDA	Baltics	Lithuania	Present	High	Various
Scenario Compilation	Presents local decision-makers with a threat to a NGO to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Threat to NGO	Presents local decision-makers with a local border incursion with narcotics-trafficking implications to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
Import of Border Incursion	Presents local decision-makers with a demonstration to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
Response and Impact of Demonstrations	Presents local decision-makers with an Eboli Outbreak to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
Ebola Outbreak	Presents local decision-makers with a money laundering incident to which they must respond taking into consideration a	2000	IDA	Macedonia	Macedonia	Present	high	Crisis Management

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	review of resources and requirements necessary to implement the response and improving civil military relations.							
Money Laudering	Presents local decision-makers with a drug trafficking incident to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Crisis Management
Drug Trafficking	Presents local decision-makers with a series of small explosives crisis to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
Bombing	Presents local decision-makers with a WMD-smuggling incident to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Smuggling WMD	Presents local decision-makers with an embassy-takover to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
Embassy Takeover	Presents local decision-makers with a hijacking incident to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
External Hijacking	Presents local decision-makers with a military threat from a rebel group to which they must respond taking into consideration a review of resources and requirements necessary to implement the response and improving civil military relations.	2000	IDA	Macedonia	Macedonia	Present	high	Homeland Defense, Civil Support
Rebel Threat	Presents local decision-makers with a WMD-trafficking scenario for which they must develop an integrated approach to	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.							
WMD Trafficking	Presents local decision-makers with a NGO threat for which they must develop an integrated approach to crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support
NGO	Presents local decision-makers with a border incursion for which they must develop an integrated approach to crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support
Border Incursion Response	Presents local decision-makers with an embassy takover including hostage-holding for which they must develop an integrated approach to crisis management through improving awareness of potential	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	problems and analyzing decision-making in a crisis.							
Embassy Takeover	Presents local decision-makers with drug-trafficking incident for which they must develop an integrated approach to crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support
Drug Trafficking	Presents local decision-makers with several local bombings incidents for which they must develop an integrated approach to crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support
Downtown Bombings	Presents local decision-makers with several demonstrations for which they must develop an integrated approach to crisis management through improving awareness of potential	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	problems and analyzing decision-making in a crisis.							
Demonstrations	Presents local decision-makers with a hijacking incident for which they must develop an integrated approach to crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support
Air Hijacking	Presents local decision-makers with a winter characterized by freezing temperatures affecting local communications, transportation and full availability, for which they must develop an integrated approach to crisis management through improving awareness of potential problems and analyzing decision-making in a crisis.	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense, Civil Support
Natural Disaster - Harsh Winter	Presents local decision-makers with a money-laundering incident through a local bank for which they must develop an integrated approach to crisis management	2001	IDA	Moldova	Moldova	Present	High	Homeland Defense

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	through improving awareness of potential problems and analyzing decision-making.							
Money Laundering	Presents an outbreak of a SARS-like Illness affecting most Southeastern European nations requiring a response from civilian and military emergency responders.	2003	IDA	Southeastern Europe		Present	High	Civil Military Emergency Planning
SARS-like Illness in Southeastern Europe	Presents a cyber attack on the international air traffic control system requiring a response from civilian and military emergency responders.	2003	IDA	Southeastern Europe		Present	High	Civil Military Emergency Planning
Cyber Attack	Presents a terrorist-inspired anthrax attack on the international air traffic system requiring a response from civilian and military emergency responders.	2003	IDA	Southeastern Europe		Present	High	Civil Military Emergency Planning
Anthrax Attack	Presents terrorists self-infected with Ebola that have crossed borders to spread the disease in Turkey, requiring a response from civilian and military emergency responders. Also evaluate joint action taken to combat terrorism and	2003	IDA	Central Asian/Caspian Basin		Present	High	Civil Military Emergency Planning

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	recommend improvements.							
Ebola Attack on the Istanbul Congress	Presents the transit of WMD across European borders, requiring a response from civilian and military emergency responders.	2003	IDA	Central Asian/Caspian Basin		Present	High	Civil Military Emergency Planning
Transporting WMB Across Borders	Presents a severe winter whereby participants must review and analyze crisis response models, national and regional applications, readiness, and coordinate responses.	2004	IDA	Eastern Europe	Belarus, Ukraine, Moldova	Present	High	Civil Military Emergency Planning
Severe Winter in Central and Eastern Europe	Presents a trilateral crime syndicate focused on extortion, kidnapping, human trafficking, and drug distribution, requiring participants to review and analyze crisis response models, national and regional applications, readiness, and coordinate responses.	2004	IDA	Eastern Europe	Belarus, Ukraine, Moldova	Present	High	Civil Military Emergency Planning
Crime Syndicate in Eastern Europe	Depicts a hijacked Iranian civil aircraft and asks participants to provide a fast action plan and options for decision-makers of the 3 countries represented.	2004	IDA	Eastern Europe	Belarus, Ukraine, Moldova	Present	High	Civil Military Emergency Planning

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Hijacked Iranian Civil Aircraft	Presents the beginning of a SARS epidemic (originating in Hong Kong) during an international hi-tech conference, followed by terrorist attacks on major facilities disrupting power, communications, the medical response structure, and the ability of first responders to act effectively.	2004	IDA	Any	Any	Present	High	Civil Military Emergency Planning
SARS at an International Conference Followed by a Terrorist Attack	Presents an international smallpox epidemic to which participants must plan coordinated responses	2004	IDA	Global		Present	High	Civil Military Emergency Planning
International Smallpox Epidemic	Presents a smallpox outbreak in the U.S. with many opportunities for transmission to people.	2003	IDA	North America	U.S.	Present	High	Civil Military Emergency Planning
Smallpox Outbreak in the U.S.	Presents a scenario whereby a police informant is asked to smuggle a nuclear suitcase bomb by a figure claiming to represent Russian interests. Participants are required to examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Smuggling a Nuclear Suitcase Bomb	Presents an oil spill in the Black Sea, causing oil to spill onto resort beaches, threatening the anticipated banner year for tourism. Participants are required to examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
Oil Spill in the Black Sea	Presents a possible Ebola case from an African tourist on a British charter flight transiting Bucharest on the way to London. Participants are required to examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
African Tourist	Presents an international 3-day meeting in Bucharest which is disrupted by Gypsies demonstrating for improved human rights and equality. Considerable press coverage threatens the success of the meeting by engendering bad publicity. Participants are required to examine procedures and systems required for	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	information, communication, decision making, and execution.							
Demonstration by Gypsies	Depicts a failing nuclear power plant on the Bulgarian/Romanian border which is in serious danger of exploding causing major atmospheric contamination and an influx of Bulgarian refugees to Romania. Paricipants must examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
Failing Nuclear Power Plant on the Bulgarian/Romanian Border	Presents a scenario whereby organized crime is rampant in Romania (especially in the banking industry), potentially threatening NATO accession. Paricipants must examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
Organized Crime	Depicts an airline hijacking in Bucharest headed for Tel Aviv in which several prominent political figures are on board. Paricipants must	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
	examine procedures and systems required for information, communication, decision making, and execution.							
Airline Hijacking	Depicts a defective water purification system in Romania which threatens not only public health, but also Romania's chance at hosting the European athletic games. Paricipants must examine procedures and systems required for information, communication, decision making, and execution, and ultimately decide wether to go public with the severity of the case or delay and public statement.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
Potential Impact of Defective Water Purification System	Depicts a scenario whereby Bulgarian police pursue drug smugglers from Bulgaria into Romania, ultimately capturing two and killing one, all on Romanian soil. Paricipants must examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning

Scenario Name	Purpose	Date Published	Developer	Geographic Region	Country	Time frame	Level of Detail	Military Operations Depicted
Cross BorderPolice Incursion	Depicts a naval incident in the Black Sea over fishing rights, escalating to threats of retaliation, fueled by the media. Paricipants must examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
Naval Incident in the Black Sea	Depicts Moldovan activists advocating unification with Romania, employing minor acts of sabotage in Moldova. Government attempts to identify the source of the activism, ultimately determining it is a crank organization with little following. Paricipants must examine procedures and systems required for information, communication, decision making, and execution.	1998	IDA	Eastern Europe	Romania	Present	High	Civil Military Emergency Planning
Global Tempest	An influenza pandemic in the United States	2007	Strategic Policy Forum	North America	United States	Present	Medium	Response to Influenza Outbreak
Vigilant Shield	Nuclear war with the U.S., Russia, China, Iran, and North Korea	2006	NORTHCOM	World	NORTHCOM	Present	Medium	Nuclear War

Appendix D
GLOSSARY

AT&L	Office of the Secretary of Defense for Acquisition, Technology and Logistics
CENTCOM	Central Command
COCOM	Combatant Command
DIME	Diplomatic, Information, Military, Economic
DoD	Department of Defense
DPS	Defense Planning Scenarios
DTIC	Defense Technical Information Center
EUCOM	European Command
JFCOM	Joint Forces Command
MSFD	Multi-Service Force Deployment Document
NATO	North Atlantic Treaty Organization
NORTHCOM	Northern Command
OSD	Office of the Secretary of Defense
PA&E	Office of the Secretary of Defense for Program Analysis and Evaluation
PACOM	Pacific Command
PMESII	Political, Military, Economic, Social, Information, Intelligence
SOCOM	Special Operations Command
SOUTHCOM	Southern Command
STRATCOM	Strategic Command
TRANSCOM	Transportation Command
USG	United States Government
WHO	World Health Organization

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Appendix E
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[88] Office within the Government of Singapore specifically designated for scenario planning and futures research.

[89] Describes the methodology of scenario planning and its applicability.

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1. REPORT DATE (DD-MM-YY)	2. REPORT TYPE	3. DATES COVERED (From – To)
March 2008	Final	

4. TITLE AND SUBTITLE	5a. CONTRACT NO.
Open Scenario Study, Phase I, Volume 1: Assessment Overview and Results	DASW01 04 C 0003
	5b. GRANT NO.
	5c. PROGRAM ELEMENT NO(S).

6. AUTHOR(S)	5d. PROJECT NO.
Jason A. Dechant, Study Co-Lead; James S. Thomason, Study Co-Lead; Michael F. Fitzsimmons; Michael F. Niles; Zachary S. Rabold.	
	5e. TASK NO.
	AK-6-2841
	5f. WORK UNIT NO.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NO.
Institute for Defense Analyses 4850 Mark Center Drive Alexandria, VA 22311-1882	IDA Paper P-4326, Volume 1

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR'S / MONITOR'S ACRONYM(S)
Office of the Deputy Under Secretary of Defense for Science and Technology Pentagon Washington, DC 20301	ODUSD(S&T)
	11. SPONSOR'S / MONITOR'S REPORT NO(S).

12. DISTRIBUTION / AVAILABILITY STATEMENT

Approved for public release; distribution unlimited.

13. SUPPLEMENTARY NOTES

14. ABSTRACT

As part of a multiphased task sponsored by the Office of the Secretary of Defense and the Joint Staff, IDA assessed the national security community's need for unclassified scenarios and found that significant demand exists. The assessment found that the recurring costs for scenario development are substantial, but they might be offset by potential options for major cost savings.

Phase I of the study used a multifaceted approach to assess the need for unclassified scenarios among DoD users and their partners. Phase I included engaging key stakeholders, reviewing relevant literature, and surveying the national security community through a questionnaire and selected interviews. Analysis of the Phase I results yielded several major findings, which are detailed in the three volumes of this report.

15. SUBJECT TERMS

Open Scenario Study, Unclassified Scenarios, Open Scenarios, Unclassified Scenario Demand, Open Scenario Demand, Unclassified Scenarios for Defense Planning, Open Scenarios for Defense Planning

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NO. OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE	UU	164	
U	U	U			**19b. TELEPHONE NUMBER (Include Area Code)**